



BOROUGH OF SCARBOROUGH.

ANNUAL REPORT

on the

Health, Sanitary Condition, &c.,

of the

Borough of Scarborough,

For the Year 1919,

by

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SCARBOROUGH:

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HEALTH DEPARTMENT,

King Street, Scarborough.

To the Chairman & Members of the Streets & Sanitary Committee.

Ladies and Gentlemen,

I beg to present to you my Annual Report for 1919. As it was past the middle of the year when I returned to my duties after five years absence on Active Service, the report is not as complete as it would otherwise have been.

There are two matters to which I suggest that you should give special attention.

One is the large amount of preventible sickness and impaired physique which have been revealed by (1) the School Medical Service, (2) the National Health Insurance Scheme and (3) the returns of the Ministry of National Service. This is a national problem which cannot be solved without the intelligent, maintained co-operation of local health authorities throughout the country. The first step towards the birth of a healthier race should be the provision of a comprehensive and efficient ante-natal, maternity and infant welfare scheme in every area. The chief defects in the Scarborough scheme are discussed in the report. They are the want of a maternity home and the lack of accommodation for weak and ailing infants and young children; both of these services could be provided in one institution.

The other matter is the continued existence of a large number of privies in the town. These are both disgusting and dangerous to health and should not be tolerated for a day longer than is necessary, especially in a health resort such as Scarborough.

I have to record the loss which the town has sustained through the death of Mr. W. W. Larkin, F.R. Met. Soc., Borough Meteorologist for twenty years and a well-known authority on local lore.

In conclusion I wish to acknowledge the good work done during the year by the Staffs of the Health Office and of the Sanatorium. The latter particularly, though much overworked during part of the year, responded cheerfully to every call.

I have the honour to be,

Ladies and Gentlemen,

Your obedient Servant

S. FOX LINTON.

BOROUGH OF SCARBOROUGH.

STATISTICAL SUMMARY.

	1919.	1918.
Area (Land and Inward Water) Statute Acres	2,373	2,373
Resident Population (middle of year)	38,350	29,062
Birth-rate	13·4	13·3
Death-rate (crude)	15·4	21·5
„ (standardised, approximate)	13·5	—
Tuberculosis (all forms) Death-rate	1·2	2·3
Phthisis Death-rate	1·0	1·8
Respiratory Diseases (excluding Phthisis) Death-rate ...	1·6	2·6
Cancer Death-rate... ..	1·6	1·9
Infantile Mortality (per 1,000 births)	88	79
Diarrhœa and Enteritis Death-rate under 2 years (per 1,000 births)	15·6	2·3

CORRESPONDING FIGURES FOR 1919 FOR ENGLAND AND WALES, AND FOR THE GROUP OF SMALLER TOWNS, OF WHICH SCARBOROUGH IS ONE.

	Birth-rate.	Death-rate.	Death-rate per 1,000 births. Diarrhœa and Enteritis. (under 2 years).		Total under 1 year.
England and Wales ...	18·5	13·8	9·59	...	89
148 Smaller Towns ...	18·3	12·6	8·67	...	90

BOROUGH OF



SCARBOROUGH.

ANNUAL REPORT.

NATURAL AND SOCIAL CONDITIONS.

POPULATION.

The 1911 Census population was 37,201. At the middle of 1919 the estimated population was 38,350. This estimate is a compromise between the figure based upon the number of inhabited houses, and that based upon the number of sugar purchasers on the Scarborough Food Control books. The number of inhabited houses in the latter part of the year was given by the Chief Rate Collector as 9,410. Allowing 4.06 persons per house, which was the average number of occupants at the time of the 1911 Census, we get a total of 38,204. This is likely to be below the mark in view of the present shortage of houses and resulting tendency to crowding. The number of sugar purchasers on the Scarborough Food Control books in November was 38,448. This, on the other hand, is above the mark, inasmuch as it includes purchasers living outside the Borough who are certainly more numerous than Scarborough residents who buy their sugar elsewhere. It appears, therefore, that the foregoing estimate of 38,350 cannot be far from the truth. The Registrar-General's estimate of 34,108 for death-rate purposes is obviously much too low. During the season the population is greatly swollen, and may be anything from 80,000 to 120,000.

PHYSICAL FEATURES AND GENERAL CHARACTER OF THE DISTRICT.

Scarborough is situated on the coast of Yorkshire in longitude $0^{\circ}24'$ W. and latitude $54^{\circ}17'$ N. The old town and harbour nestle on the South side of the Castle Hill and of the isthmus which joins this to the mainland.

The modern town lies 100—200 feet above the level of the sea, on a platform consisting of lower oolitic shale and sandstone capped, in place of the middle and upper oolitic layers, with glacial deposit of boulder clay, sand and gravel. The seaward slopes of this platform, together with those of a valley which cuts through it, provide excellent natural drainage of the area.

On its landward side, from North by West round to South-East, the town is sheltered by masses of high land, culminating in a long range of hills in the form of a horse shoe with its ends at Flamborough Head and the North Cheek of Robin Hood's Bay. This ridge consists of the North York Moors to the North, the Hambleton Hills and Howardian Hills to the West, and the Yorkshire Wolds to the South. It has a sweep of about a hundred miles, and is continuous except where the gorge of the River Derwent pierces its South-Western portion. The protection from cold land winds which it affords to Scarborough lying midway between its two ends, has a noticeable effect, in combination with the steadying action of the sea, upon the climate of the town and surrounding district, raising the mean annual temperature and at the same time reducing the seasonal and diurnal ranges of temperature.

SOCIAL CONDITIONS.

The prosperity of the town depends mainly upon (1) the fishing industry; and (2) the annual influx of visitors during the season. Both these sources of income were cut off by the war without being replaced by any war industry. The town was, therefore, more badly hit than most, and in consequence its inhabitants suffered an excessive degree of impoverishment and privation, the adverse influence of which upon their vitality has no doubt affected the mortality statistics for 1919.

The occupation of the fishing folk has no unfavourable effect upon public health. This cannot be said of the occupation known as "taking in visitors," which as at present carried on produces undesirable results in two directions. It deprives many young children, whose mothers' time is entirely given to catering for her visitors, of the constant and careful attention which they require. It also leads to a considerable amount of overcrowding, which, in addition to being

unhealthy in itself, facilitates the spread of, and makes it more difficult to trace, the infectious illness which is constantly introduced into the town by visitors. In some cases practically the whole house is given up to visitors for two or three months, while the householder and his family confine themselves to one or two rooms sometimes situated in the basement. Children have been known to sleep on the floor, under tables. It will be urged that the more visitors there are the greater will be the material prosperity of the town. But material prosperity should not be sought at the expense of health and decency. This matter is being brought before the Health Sub-Committee.

VITAL STATISTICS.

A summary appears at the beginning of this Report, and further figures are given in Table 1., together with comparative figures supplied by the Registrar-General.

TABLE I.
BIRTH-RATE, DEATH-RATE, AND ANALYSIS OF MORTALITY
DURING THE YEAR 1919.

(Provisional figures. Populations estimated to the middle of 1919 have been used for the purposes of this Table.)

	Birth-rate per 1,000 total Population	Annual Death-rate per 1,000 Civilian Population.								Rate per 1,000 births.		Percentage of Total Deaths.			
		All Causes.	Enteric Fever.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria.	Violence.	Diarrhoea and Enteritis (under 2 years.)	Total deaths under 1 year.	Deaths in Public Institutions.	Certified Causes.	Inquest Cases.	Uncertified Causes of Death.
England and Wales	18.5	13.8	0.01	0.00	0.10	0.03	0.07	0.13	0.47	9.59	89	23.9	92.5	6.2	1.3
96 Great Towns, including London (Census Populations exceeding 50,000)	19.0	13.8	0.01	0.00	0.13	0.04	0.07	0.14	0.45	12.24	93	29.2	92.3	6.9	0.8
148 Smaller Towns (Census Populations 20,000—50,000)	18.3	12.6	0.01	0.00	0.10	0.03	0.08	0.12	0.39	8.67	90	16.6	93.6	4.9	1.5
London ...	18.3	13.4	0.01	0.00	0.08	0.03	0.05	0.18	0.47	16.22	85	44.7	91.2	8.6	0.2
Scarborough ...	13.4	15.4	0.00	0.00	0.03	0.03	0.03	0.94	0.42	15.56	88	18.6	91.0	9.0	0.0

Non-Civilians are included in these figures for England and Wales, but not for other areas.

MARRIAGES.

The marriages in Scarborough during the year numbered 399, corresponding to a rate of 20.1 persons married per 1,000 of the population at all ages. This is the largest number of marriages previously recorded in one year, and also the highest rate if we leave out of account the rush into matrimony during 1915. A more accurate measure would be given by a rate based upon the marriageable population only, if this were known.

In Table II. are shewn the numbers of marriages and the rates in Scarborough and the rates in England and Wales for each year since 1904 and for the decennium immediately before the war.

TABLE II.

Year.	Population.	Number of Marriages.	Rate.	Rate. England and Wales.
1904	37,849	363	19.2	15.3
1905	37,753	314	16.6	15.3
1906	37,657	316	16.8	15.7
1907	37,561	321	17.1	15.9
1908	37,465	312	16.7	15.1
1909	37,369	315	16.9	14.7
*1910	37,273	328	17.6	15.0
1911	37,177	307	16.5	15.2
1912	37,081	300	16.2	15.6
1913	37,455	308	16.2	15.7
1904-13	374,640	3184	17.0	
1914	38,392	304	15.8	15.9
1915	32,630	392	24.0	19.4
1916	33,970	265	15.6	14.9
1917	31,659	245	15.5	13.8
1918	32,563	319	19.6	15.3
1919	38,350	399	20.1	19.7

*53 weeks.

BIRTHS.

The net number of births during the year was 514, and the birth-rate 13.4 per 1,000. As the number of deaths was 590 it will be seen that instead of a natural increase there was a natural decrease in the population. A tendency in this direction first shewed itself in 1911. In 1916 and each subsequent year there actually was an excess of deaths over births. The following table shews the figures since 1908, a plus sign marking an increase and a minus sign a decrease.

TABLE III.

Year.	Births.	Deaths.	Increase or Decrease.
1908	731	502	+229
1909	783	523	+260
1910	731	539	+192
1911	671	622	+ 49
1912	609	571	+ 38
1913	674	570	+104
1914	609	572	+ 37
1915	563	557	+ 6
1916	534	566	— 32
1917	382	566	—184
1918	433	625	—192
1919	514	590	— 76

It may be said here that during the first quarter of 1920 there were 70 more births than deaths, so that there is every prospect of a natural increase being once more established.

Table IV. gives the numbers of births and the rates in Scarborough with the rates in England and Wales and in the Group of Smaller Towns for each year since 1904, and for the decennium immediately before the war. The Scarborough birth-rate is very low in comparison with the rates for England and Wales and for the Group of Smaller Towns. It would no doubt compare much more favourably if birth-rates were calculated on the female population at marriageable ages.

TABLE IV.

Year.	Borough of Scarborough.			England and Wales Birth-rate.	Group of Smaller Towns Birth-rate.
	Population.	Number of Births.	Birth-rate.		
1904	37,849	901	23·8	28·0	27·5
1905	37,753	837	22·2	27·3	26·9
1906	37,657	774	20·6	27·2	26·5
1907	37,561	772	20·6	26·5	25·7
1908	37,465	731	19·5	26·7	26·0
1909	37,369	783	21·0	25·8	24·8
*1910	37,273	731	19·6	25·1	23·7
1911	37,177	671	18·0	24·3	23·4
1912	37,081	609	16·4	23·9	23·8
1913	37,455	674	18·0	24·1	23·9
1904-13	374,640	7,483	20·0	25·9†	25·2†
1914	38,392	609	15·9	23·8	28·9
1915	32,630	563	17·3	21·9	21·6
1916	33,970	534	15·7	20·9	—
1917	31,669	382	12·6	17·8	18·0
1918	32,563	433	13·3	17·7	17·9
1919	38,350	514	13·4	18·5	18·5

*53 weeks.

†Approximate.

The next two Tables give the male, female and total births in each quarter, and the Ward distribution of total births. It will be noticed that the births were evenly divided between the sexes. As a rule there are more male than female births, especially after a war; in England and Wales from 1916 onwards there has been an unusually high proportion of male births.

TABLE V.

Quarter.	Total Births.			Illegitimate Births.		
	Males.	Females.	Total.	Males.	Females.	Total.
First	50	59	109	8	13	21
Second	70	58	128	8	8	16
Third	71	72	143	6	13	19
Fourth	66	68	134	—	4	4
Total	257	257	514	22	38	60

TABLE VI.
WARD DISTRIBUTION OF TOTAL BIRTHS.

Town.	N.W.	N.	C.	E.	W.	S.
514	153	81	67	82	102	29

DEATHS.

During the year 598 deaths were registered as occurring in the Borough. From this total must be deducted 58 deaths of non-residents, while 50 deaths of residents occurring elsewhere must be added to it. The net number of deaths belonging to the Borough is therefore 590, giving a crude death-rate of 15·4 per 1,000.

Multiplying this figure by the Registrar-General's factor for correction, on the assumption that the latter is approximately correct for the Scarborough population as now constituted, we get an approximate *Standardized Death-rate* of 13·6 per 1,000.

The fall in the death-rate for 1919 as compared with the 1918 figure is partly due to the lessened mortality (1) from influenza and its sequelæ and (2) from tuberculosis, the fatality of which was doubtless accelerated during 1918 by the influenza epidemic.

It may be accounted for also to a considerable degree by the difference in constitution of the two populations. In 1918 the town had a war population containing an excessive proportion of the very young and the aged, amongst whom mortality is at its highest. In 1919 this population was diluted by the return to the town of a large number of young adults amongst whom mortality is of course at its lowest.

The following Table shews the numbers of deaths and the death-rates in Scarborough, with the death-rates in England and Wales and in the group of Smaller Towns for each year since 1904, and for the decennium immediately before the War.

TABLE VII.

Year.	Borough of Scarborough.			England and Wales Death-rate (Standardized).	Group of Smaller Towns Death-rate (Standardized).
	Population.	Number of Deaths.	Death-rate (Standardized.)		
1904	37,849	583	14.7	16.2	15.6
1905	37,753	538	13.7	15.2	14.4
1906	37,657	589	14.9	15.3	14.4
1907	37,561	681	17.3	14.9	14.5
1908	37,465	502	12.8	14.5	14.7
1909	37,369	523	13.4	14.3	14.5
x 1910	37,273	539	13.9	13.2	12.9
1911	37,177	622	14.8	14.2	14.4
1912	37,081	571	13.7	13.0	13.0
1913	37,455	570	13.5	13.5	13.0
1904-13	374,640	5718	13.5	14.1 †	14.1 †
1914	38,392	572	13.2	13.7	13.1
1915	32,630	557	(17.1) ‡	14.8 ||	14.2
1916	31,221	566	(18.1) ‡	13.4 ||	13.0
1917	28,410	566	(19.9) ‡	13.5 ||	13.2
1918	29,062	625	(21.5) ‡	17.1 ||	16.1
1919	38,350	590	13.6	13.8	12.6

x 53 weeks. ‡ These are crude rates and therefore not comparable with others. † Approximate.
|| Based upon civilian deaths and estimated civilian population.

The age and sex incidence and the Ward distribution of residents' deaths are given in Tables VIII. and IX. Though little use is made of these figures in this Report, they are valuable for future reference.

TABLE VIII.
AGE INCIDENCE OF RESIDENTS' DEATHS.

Quarter.	All Ages.		Under 1 year.		1 to 5 years.		5 to 15 years.		15 to 25 years.		25 to 45 years.		45 to 65 years.		Over 65 years.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
First ...	83	111	10	6	4	6	4	3	...	4	8	9	18	30	39	53
Second ...	42	85	2	6	2	4	3	6	...	5	3	9	13	13	19	42
Third ...	59	57	10	3	3	2	6	3	2	2	7	9	11	12	20	26
Fourth ...	58	95	5	3	5	3	6	10	3	1	3	11	13	23	23	44
Total...	242	348	27	18	14	15	19	22	5	12	21	38	55	78	101	165

TABLE IX.
WARD DISTRIBUTION OF RESIDENTS' DEATHS.*

Age Period.	Town.	N.W.	N.	C.	E.	W.	S.
Under 1 year	45	10	6	9	9	10	1
1 to 5 years	29	5	10	3	6	4	1
5 to 15 years	41	5	10	6	10	10	—
15 to 25 years	17	4	3	3	—	5	2
25 to 45 years	58	16	15	10	7	8	3
45 to 65 years	134	36	21	15	18	25	19
Over 65 years	266	63	48	39	27	47	42
All ages	590	139	113	85	77	108	68

*The influence of a Public Institution on the mortality of a Ward has been eliminated by referring each resident's death in an Institution to the Ward in which the deceased previously lived.

DEATHS IN PUBLIC INSTITUTIONS.

There were during the year 110 deaths of residents and non-residents in Public Institutions in the Borough, representing 18·4 % of the total number.

INQUESTS.

The Borough Coroner held Inquests on 55 deaths during the year, of which six were among visitors. The ages at death and the causes were as follows:—

Age at Death.	Cause of Death.
Under 1 year 2	Accident 8
1 and under 5 years ... 3	Suicide 6
5 and under 15 years ... 4	Diseases of the Heart ... 17
15 and under 25 years ... 1	Other causes 24
25 and under 65 years ... 23	
65 years and upwards ... 22	

The following were the certified causes of the two infantile deaths:—

- (1) Convulsion caused by Gastro-Enteritis.
- (2) Syncope arising from wasting and weakness, the effect of protracted teething and Eczema.

TABLE X.

CAUSES OF, AND AGES AT DEATH DURING THE YEAR 1919.

CAUSES OF DEATH.	NETT DEATHS AT THE SUBJOINED AGES OF "RESIDENTS" WHETHER OCCURRING WITHIN OR WITHOUT THE DISTRICT.									TOTAL DEATHS WHETHER OF "RESIDENTS" OR "NON-RESIDENTS" IN INSTITUTIONS IN THE DISTRICT.	REGISTRAR GENERAL'S FIGURES.	
	All Ages.	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and upwards.		M.	F.
All causes { Certified	590	45	13	16	42	17	58	133	266	110	244	343
Uncertified .....	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever .....	..	..	..	..	..	..	..	..	..	..	..	..
Small-pox .....	..	..	..	..	..	..	..	..	..	..	..	..
Measles	1	..	..	1	..	..	..	..	..	..	..	..
Scarlet Fever	1	..	..	..	..	..	1	..	..	..	..	1
Whooping Cough	1	..	1	..	..	..	..	..	..	..	1	..
Diphtheria and Croup	36	1	1	6	28	..	..	..	..	1	15	21
Influenza	26	1	1	1	1	1	7	7	7	1	11	14
Erysipelas .....	..	..	..	..	..	..	..	..	..	..	..	..
Phthisis (Pulmonary Tuberculosis)	37	..	1	..	..	7	16	12	1	4	14	23
Tuberculosis Meningitis	6	..	..	4	1	1	..	..	..	2	3	2
Other Tuberculous Diseases	4	..	..	..	1	3	..	..	..	..	..	3
Cancer, Malignant Disease	61	..	..	..	..	..	8	21	32	9	21	37
Rheumatic Fever .....	..	..	..	..	..	..	..	..	..	..	..	..
Meningitis	4	1	..	..	2	1	..	..	..	1	3	1
Organic Heart Disease	74	..	..	..	2	..	5	23	44	10	40	57
Bronchitis	39	2	1	1	..	1	..	9	25	5	10	23
Pneumonia (all forms)	19	2	1	..	..	..	1	7	8	5	8	9
Other Diseases of Respiratory Organs	3	..	..	..	..	1	..	1	1	..	2	7
Diarrhoea and Enteritis	10	7	1	..	..	..	..	..	2	1	4	2
Appendicitis and Typhilitis	2	1	..	..	1	..	..	..	..	4	1	1
Cirrhosis of Liver	4	..	..	..	..	..	..	3	1	..	3	1
Alcoholism	1	..	..	..	..	..	..	1	..	..	1	..
Nephritis and Bright's Disease	16	..	..	..	..	..	..	7	9	7	7	13
Puerperal Fever	2	..	..	..	..	..	2	..	..	2	..	2
Other Accidents and Diseases of Pregnancy and Parturition	4	..	..	..	..	..	4	..	..	2	..	3
Congenital Debility and Malformation, including Premature Birth	28	28	..	..	..	..	..	..	..	5	11	6
Violent Deaths, excluding Suicide	9	..	1	..	2	..	1	3	2	5	6	2
Suicide	7	..	..	..	..	..	3	1	3	1	3	4
Other Defined Diseases	194	2	5	3	4	2	9	38	131	45	78	111
Diseases ill-defined or unknown ..	1	..	..	..	..	..	1	..	..	..	2	..
Totals	590	45	13	16	42	17	58	133	266	110	244	343
Special causes (included above)												
Cerebro-Spinal Fever	1	..	..	..	..	1	..	..	..	..	1	..

The principal causes of death at successive age periods during the year are set out in Table X. The more important of these were as follows:—

ORGANIC HEART DISEASE.—The various diseases classified under this heading caused 74 deaths, of which 44 occurred at ages 65 and over.

CANCER.—Of the 61 deaths caused by malignant disease, 32 occurred at ages 65 and upwards. The average annual number of deaths from Cancer during the ten years 1904–13 was 53·7. During the five years 1914–18 it was 62·8, the highest figure being for 1916. It appears, therefore, that the mortality from Cancer is not at present rising in Scarborough as it is in the country as a whole.

TUBERCULOSIS.—During the 10 years before the War the average annual numbers of deaths and the death-rates were 53 and 1·42 for all forms of Tuberculosis, and 39 and 1·04 for Pulmonary Tuberculosis only. During the five years 1914–18 the figures were 55 and 1·72 for all forms, and 40 and 1·26 for Pulmonary Tuberculosis.

It will be seen that the 1919 figures shew a considerable drop, practically the whole of which is in respect of Pulmonary Tuberculosis. As has already been pointed out this is very largely to be accounted for by the accelerated fatality from phthisis caused by the influenza epidemic of 1918, in consequence of which a certain number of consumptives died in that year who would normally have lived to swell the mortality in 1919.

Table XI. shews the figures for Scarborough and England and Wales since 1904. Of the deaths from Phthisis in Scarborough, 28, or 76 %, occurred between the ages of 25 and 65, the main productive period of life.

TABLE XI.

Year.	Tuberculosis (all forms).				Phthisis.		
	Scarborough.			England and Wales Death-rate.	Scarborough.		England and Wales Death-rate.
	Population.	No. of Deaths.	Death- rate.		No. of Deaths.	Death- rate.	
1904	37,849	52	1.37	1.78	39	1.03	1.24
1905	37,753	48	1.27	1.64	39	1.03	1.15
1906	37,657	62	1.65	1.65	33	.88	1.16
1907	37,561	52	1.38	1.62	40	1.06	1.15
1908	37,465	63	1.68	1.59	51	1.36	1.12
1909	37,369	44	1.18	1.54	36	.96	1.09
1910	37,273	48	1.29	1.43	37	.99	1.02
1911	37,177	57	1.53	1.47	45	1.21	1.06
1912	37,081	46	1.24	1.37	30	.81	1.02
1913	37,455	61	1.63	1.35	41	1.09	0.99
1904—13	374,640	533	1.42	1.54 x	391	1.04	1.10 x
1914	38,392	55	1.43	1.36	41	1.07	1.02
1915	32,630	43	1.32 †	1.51 †	27	.83 †	1.14 †
1916	31,221	50	1.60 †	1.53 †	35	1.12 †	1.16 †
1917	28,410	59	2.08 †	1.62 †	46	1.62 †	1.23 †
1918	29,062	67	2.31 †	1.69 †	52	1.79 †	1.32 †
1919	38,350	47	1.23	...	37	.96	...

x Approximate. † Based upon civilian deaths and civilian population.

BRONCHITIS.—Of the 39 deaths attributed to this disease 25 were among persons of 65 years and upwards.

DIPHTHERIA.—There were 36 deaths from this disease, the largest number so far recorded in one year, representing a mortality of 0.94 per 1,000 of the population.

In most cases the patients died at the Isolation Hospital, having been received there too late in the disease for treatment to be of any use. Parents do not sufficiently realise the extreme importance of early treatment in diphtheria. On the least suspicion of a sore throat in a child a doctor should be called in instantly, as two or three hours delay in the injection of anti-diphtheria serum may make the difference between life and death. Many of the cases have been of a severe type from the onset, and the only thing that will save such cases is the early injection of a large dose of serum. A dose of 8,000 units is not enough; 16,000 to 20,000 is not too much if 24 hours have elapsed since the onset of symptoms.

CONGENITAL DEBILITY AND MALFORMATION, INCLUDING PREMATURE BIRTH.—The 28 deaths from these conditions are referred to under Infantile Mortality.

INFLUENZA.—The deaths from this disease numbered 26 as compared with 87 in 1918.

DEATHS AT ADVANCED AGES.—At ages 65 and upwards there were 266 deaths, representing 45 per cent. of the total mortality.

INFANTILE MORTALITY.—The Infantile Mortality rate in 1919 was 88 per 1,000 births, as compared with 89 and 90 in England and Wales and in the Smaller Towns respectively. It was 68 for legitimate and 233 for illegitimate infants.

The following table shews the Infantile Mortality rates for Scarborough for each year since 1904 and for the decennium 1904-13, together with the corresponding figures for England and Wales and for the group of Smaller Towns.

TABLE XII.

Year.	Scarborough.		Death-rate under 1 year per 1,000 Births.		
	Births.	Deaths under 1 year.	Scarborough.	England and Wales.	Smaller Towns.
1904	901	120	133	145	154
1905	837	83	100	128	132
1906	774	105	136	132	138
1907	772	88	114	118	122
1908	731	65	89	120	124
1909	883	56	72	109	111
1910	731	76	104	105	104
1911	671	79	118	130	133
1912	609	47	77	95	98
1913	674	76	113	108	112
1904—13	7,483	795	106	119*	123*
1914	609	52	85	105	104
1915	563	46	82	110	114
1916	534	41	77	91	90
1917	382	35	92	96	93
1918	433	34	79	97	94
1919	514	45	88	89	90

*Approximately.

The Infantile Mortality rates in the several Wards for the decennium 1904—13, and for 1919 are given in Table XIII.

TABLE XIII.

	1904—1913.			1919.		
	Births.	Deaths under 1.	Infantile Mortality.	Births.	Deaths under 1.	Infantile Mortality.
Town.	7483	795	106	514	45	88
North-West Ward...	2068	166	80	153	10	65
North Ward ...	1348	151	112	81	6	74
Central Ward ...	907	109	120	67	9	134
East Ward ...	1520	197	129	82	9	110
West Ward ...	1336	115	86	102	10	98
South Ward ...	306	22	72	29	1	34

Bearing in mind the smallness of the figures on which the Ward rates for one year are based, it is, nevertheless, worthy of remark that in 1919 the East and Central Wards still occupied their unenviable position in respect of infantile mortality. One of the worst areas in the town as regards housing, namely, the Cross Street and Dumble Street area, lies astride the boundary between the East and Central Wards, while, as is well known, very bad housing conditions prevail in the East Ward generally. It will be necessary to remedy these conditions in order to reduce the Scarborough infantile mortality rate to what it should be.

TABLE XIV.
 INFANT MORTALITY DURING THE YEAR 1919.
 Nett Deaths from stated causes at various Ages under 1 Year of Age.

Cause of Death.		Under 1 week.	1-2 weeks.	2-3 weeks.	3-4 weeks.	Total under 4 weeks.	4 weeks and under 3 months.	3 months and under 6 months.	6 months and under 9 months.	9 months and under 12 months.	Total Deaths under 1 year.
All causes	Certified	11	1	5	2	19	4	7	9	6	45
	Uncertified .....	...	...	...	...	...	...	...	...	...	...
Small-pox .....		...	...	...	...	...	...	...	...	...	...
Chicken-pox .....		...	...	...	...	...	...	...	...	...	...
Measles .....		...	...	...	...	...	...	...	...	...	...
Scarlet Fever.....		...	...	...	...	...	...	...	...	...	...
Whooping Cough .....		...	...	...	...	...	...	...	...	...	...
Diphtheria and Croup.....		...	...	...	...	...	...	...	...	1	1
Erysipelas .....		...	...	...	...	...	...	...	...	...	...
Tuberculous Meningitis .....		...	...	...	...	...	...	...	...	...	...
Abdominal Tuberculosis.....		...	...	...	...	...	...	...	...	...	...
Other Tuberculous Diseases .....		...	...	...	...	...	...	...	...	...	...
Meningitis (<i>not Tuberculous</i>) .....		...	...	...	...	...	...	...	1	...	1
Convulsions .....		...	...	...	...	...	1	...	...	1	2
Laryngitis .....		...	...	...	...	...	...	...	...	...	...
Bronchitis .....		...	...	...	...	...	1	1	...	...	2
Pneumonia (all forms) .....		...	...	...	...	...	...	1	...	1	2
Diarrhœa .....		...	...	...	...	...	...	1	...	...	1
Enteritis.....		...	...	...	...	...	...	2	4	...	6
Gastritis.....		...	...	...	...	...	...	...	...	...	...
Syphilis .....		...	...	2	...	2	...	...	1	1	4
Rickets .....		...	...	...	...	...	...	...	...	...	...
Suffocation, overlying.....		...	...	...	...	...	...	...	...	...	...
Injury at Birth .....		...	...	...	...	...	...	...	...	...	...
Atelectasis		1	...	...	...	1	...	...	...	...	1
Congenital Malformations.....		1	...	...	...	1	...	...	...	...	1
Premature Birth		6	1	...	1	8	...	...	...	...	8
Atrophy, Debility and Marasmus ...		3	...	3	1	7	1	2	2	2	14
Other Causes.....		...	...	...	...	...	1	...	1	...	2
Totals		11	1	5	2	19	4	7	9	6	45

The following table shews the death-rate in the borough from diarrhoea at ages under two, per 1000 births during 1919 and previous years, together with the figures for England and Wales and the Smaller Towns so far as they are available.

It will be seen that the Scarborough rate for the quinquennium 1914-1918 was reduced to half of what it was in the previous quinquennium, and that the Scarborough figures throughout compare favourably with the others, except in the year 1919.

TABLE XV.

Year.	Scarborough.		Diarrhoea Death-rate under 2 per 1,000 Births.		
	Births.	Diarrhoea deaths under 2.	Scarborough.	England and Wales.	Smaller Towns.
1909	783	15	19.2	...	...
1910	731	14	19.2	...	...
1911	671	25	37.3	43.65	48.70
1912	609	5	8.2	8.53	8.01
1913	674	13	19.3	23.41	24.73
1908-13	3468	72	20.8	...	...
1914	609	12	19.7	20.41	19.84
1915	563	8	14.2	18.18	17.15
1916	534	3	5.6	12.47	10.79
1917	382	2	5.1	12.18	10.08
1918	433	1	2.3	10.99	9.73
1914-18	2541	26	10.2	14.8*	13.5*
1919	514	8	15.6	9.59	8.67

* Approximate.

“The three chief causes of death in infancy,” says Sir George Newman, “are *developmental conditions* (immaturity, prematurity, debility, wasting and atrophy), *diarrhoeal diseases* and *respiratory disease*; since 1901—13 there has been a significant decline affecting the whole of the first year but particularly in regard to deaths due to diarrhoeal disease, then to respiratory disease and only much less so in respect of developmental disease.”

The following figures for Scarborough illustrate the truth of these remarks.

TABLE XVI.

Period.	Number of Births.	Deaths under 1 year from			
		Diarrhoeal Diseases.		Developmental Conditions.	
		Total Number.	Rate per 1,000 Births.	Total Number.	Rate per 1,000 Births.
1905—14	7191	147	20	339	47
1915—19	2426	21	9	105	43

It will be seen that whereas the diarrhoeal death-rate per 1,000 births for 1915-19, was less than half what it was for the previous ten years, the developmental mortality on the other hand shews hardly any fall at all.

It is only in the first month of life, that is in the period in which developmental conditions take their main toll of infant lives, that the methods of prevention so far employed have not met with conspicuous success. "This one narrow period of relative failure is probably due to inherent conditions, to shortness of the period of the application of preventive medicine, and to unsatisfactory midwifery.

The problem of infant mortality will be solved only in so far as the whole function of motherhood is fulfilled under favourable conditions. Hence, each local authority will do well to consider for its own area in particular, the adequacy of the existing arrangements—

- (a) for a proper maternity service, including ante-natal care ;
- (b) for infant welfare centres (for consultations, home visiting and the education of the mother) ;
- (c) for infant treatment clinics ;
- (d) for health visitors ; and
- (e) for suitable accomodation in infant homes and hospitals."

The arrangements in Scarborough are no longer adequate as regards (b), (c) and (d). There is need for a second health visitor, and for an infant welfare centre in the East Ward. The work that has to be done has now far outgrown the capacity of one individual, partly owing to the enlargement of its scope, and partly on account of the recent great increase in the number of births. An infant welfare centre is needed in the East Ward because the Victoria Road Centre is too far away for mothers living in that part of the town to attend it.

In regard to (a) the only arrangement made so far is the grant of £200 per annum towards the provision of two trained midwives by the Scarborough District Nursing Association. This has been in force since April, 1919, and the two midwives have done invaluable work. But "a proper maternity service" implies more than this. For such a service the additional requirements in Scarborough are (1) a maternity home, and (2) the services of a second health visitor to render possible the development of ante-natal work, which has as yet hardly been touched.

Under (e) there are at present practically no arrangements in Scarborough. Accommodation should be provided for a certain number of ailing infants in a separate part of the proposed maternity home.

Recommendations for the provision of (1) a maternity home, (2) a second health visitor, and (3) an infant welfare centre in the East Ward are at present under consideration by the Health, Maternity, and Child Welfare Sub-Committee.

MORTALITY FROM CONDITIONS ASSIGNED TO PREGNANCY OR CHILD-BIRTH.

The death-rate per 1,000 births from these conditions for the years 1918 and 1919 and for the previous decennium are shewn in Table XVII. together with the figures for England and Wales. The local death-rates, it will be noticed, are comparatively high. They have been disquietingly so for the last five years, and are indicative of the unsatisfactory midwifery obtaining in Scarborough, and of the need for the establishment of a maternity home and for the development of ante-natal work.

TABLE XVII.

Period.	Number of Births.	Deaths assigned to Pregnancy or Child-birth.	Death-rate per 1,000 Births.	
			Scarborough.	England and Wales.
1908-17	6287	29	4.61	3.96
1918	433	3	6.93	3.79
1919	514	6	11.67	4.37

The cases for whom accommodation in a maternity home is needed are :—

- (1) Cases of normal labour whose home conditions are such as render safety, to say nothing of privacy, impossible.
- (2) Cases of abnormal labour.
- (3) Selected unmarried cases.

Owing to the bad housing conditions which prevail in part of the town and to the present shortage of houses, neither of which conditions will soon be remedied, a large and increasing number of mothers come under heading (1), and it is from this class that the majority of patients entering the home would be drawn. It may be confidently be said that the rest and freedom from anxiety and danger for the mother, and the better start in life for the infant, secured in a maternity home, will have results inestimable in their value to the community.

Accommodation should be provided in a separate part of the home for ailing infants and children, referred from the infant welfare clinic as being in need of special attention for a time. It is certain that some lives could thus be saved, and much permanent injury prevented.

SANITARY CIRCUMSTANCES.

WATER. The water supply is obtained from the Middle Oolitic Calcareous Grits and Corallian Limestones, subterranean porous rocks in which the water is held up by the underlying impermeable Oxford Clay. Part of the supply is pumped from two deep wells at Irton and Osgodby, and the remainder is taken from a great spring issuing in the cliff at Cayton Bay. The Irton well is partly fed by the River Derwent, through swallow holes in the bank of the latter where, flowing through Forge Valley, it crosses the outcrop of the limestones. To obviate any danger from pollution thus arising, a mechanical filtration plant was installed in 1914-15, since which time the whole of the Irton supply has been treated by precipitation and filtration before being stored for distribution.

A chemical analysis of samples from all three sources was made in July, 1920, with the following results :—

Grains per Gallon (Parts per 70,000) of	Irton (filtered).	Osgodby.	Cayton Bay.
Chlorides equivalent to Common Salt ...	3·00	4·39	4·96
Nitrates equivalent to Calcium Nitrate...	trace	0·41	trace
Nitrates	none	none	none
Calcium, Magnesium, Salts, &c....	14·12	18·00	20·97
Volatile and Organic matter ...	1·08	1·28	0·67
Total Dissolved Solids ...	18·20	24·08	26·60
Injurious metals	none	none	none
Free Ammonia	0·001	0·004	0·005
Organic Ammonia... ..	0·002	0·002	0·004
Hardness Temporary	9·0	11·0	12·4
Hardness Permanent	3·8	5·1	5·5
Total	12·8	16·1	17·9

So far as chemical analysis goes, therefore, all three waters are very pure.

The only point calling for remark is the hardness of the Osgodby and Cayton Bay waters. In this connection it should be pointed out that three quarters of the Scarborough supply is taken from Irton, so that its average hardness is about the same as that of a mixture of six parts of Irton, and one part each of Osgodby and Cayton Bay waters. This would amount to 13·8 parts per 70,000. The Scarborough water supply is therefore correctly described as having a moderate degree of hardness.

An analysis of a sample of the mixed supply taken at the Town Hall gave the following result :—

				Grains per gallon.
Temporary hardness	...	...		10·7
Permanent hardness	...	...		4·9
Total	...	...	...	<hr/>15·6 <hr/>

RIVERS AND STREAMS. There is no pollution of streams within the borough. A stream at Wheatcroft, which forms part of the Southern boundary, is open to pollution by drainage from some piggeries. Measures for dealing with the nuisance, which thus occasionally arises, are under consideration by the Corporation and the Scarborough Rural District Council.

DRAINAGE AND SEWERAGE. The cliffs and headlands, upon which the town is built, afford great natural facilities for drainage.

There are about 40 miles of sewers in the borough. The following account of the system is given by the Borough Surveyor.

The sewage of the borough is taken by gravitation and discharged without treatment into the sea by means of two outfalls at low water mark. The Southern outfall is situate near the junction of the outer harbour and the Marine Drive. This outfall takes the drainage of the South, East and part of the Central and West Wards of the Borough. The Northern outfall is carried along the foreshore of the Urban District of Scalby, and discharges at the promontory known as Scalby Ness. It takes the drainage of the North, North West, and part of the Central and West Wards.

The sewerage system generally takes both surface water and sewage, but the Corporation has powers by Section 60 of the Scarborough Corporation Act, 1900, to require the provision of separate sewers for the reception of surface water

and sewage respectively in certain cases. Up to the present time, these powers have only been exercised to a limited extent. A system of surface drainage has been laid down for a portion of the Weaponness Estate, which discharges into the sea on the beach near the Holbeck Gardens.

CLOSET ACCOMMODATION. The following table shews the water closet and privy accommodation in the town on December 31st, 1911, together with the changes in subsequent years, and the figures for December 31st, 1919.

It will be seen that there are still 1,635 houses with privy accommodation only. The total number of privies is greater than this, for many houses which have water closets have privies as well, which in some cases no doubt are in use, especially during the Season, the very time when they are most dangerous.

Every effort should be made to abolish the last privy in this health resort at as early a date as possible.

TABLE XVIII.
WATER CLOSET AND PRIVY ACCOMMODATION.

Date.	Total Dwelling-Houses.	New Houses Built.	Houses with W.C's.	Houses with Privies only.	Privies converted into Waterclosets
December 31st, 1911	9894		7339	2555	
1912		21			316
1913		27			274
1914		27			184
1915		9			43
1916		1			13
1917					18
1918					9
1919					51
	less 12*			less 12*	
	9882 +85	85	7339 + 85 +908	2543 —908	908
December 31st, 1919	9967†		8332	1635†	

* By conversion of 24 back-to-back houses into 12 through houses.

† In respect of 216 of these houses closing orders, and, in some cases, demolition orders, have been made. This number has not been deducted as many of them are still occupied.

SCAVENGING. House refuse is removed once weekly by the Corporation cleansing staff: from some of the large boarding houses there are two collections a week. It is taken to a tip outside the town and covered with earth to a depth of one foot. The contents of privies are dealt with in the same way. This is a very objectionable state of affairs, and to put an end to it, the remaining privies in the town should be abolished at the earliest possible moment.

During the 8 years, 1912-19, more than 900 movable ashbins, with proper covering, were substituted for fixed receptacles; the number substituted during 1919, was 51.

A refuse masticator is at present being installed to deal with all the town's refuse. It will be working before very long.

SANITARY INSPECTION OF DISTRICT. This is dealt with in the Report of the Inspector of Nuisances, which follows.

REPORT OF THE INSPECTOR OF NUISANCES.

MR. JAMES BASTIMAN, ASSOC. ROYAL SAN. INST.

To the Medical Officer of Health.

SIR,

I beg to submit my Thirty-sixth Annual Report, describing in detail the work of the Inspector of Nuisances for the year 1919.

The inspection of the Borough for the detection and suppression of nuisances, has been systematically carried out, and every effort has been made to maintain a high standard of sanitation.

NUISANCES.

During the year 875 notices have been served for the abatement of nuisances, compared with 391 in the previous year.

In one instance only, was it found necessary to institute summary proceedings, to abate nuisance arising from a defective drain.

In this case an adjournment of 7 days was made, the work being put in hand on the hearing of the case. The necessary work was carried out.

SUMMARY OF PRIVY CONVERSIONS.

January	...	...	0
February	...	...	0
March	...	...	3
April	...	...	1
May	...	...	3
June	...	...	1
July	...	...	2
August	...	...	5
September	...	...	17
October	...	...	10
November	...	...	5
December	...	...	4
Total.			<hr/> 51 <hr/>

The following table shews the number of notices served for the abatement of nuisances during the ten years 1910-1919.

Year.	No. of Notices.		
1910	871
1911	1604
1912	1610
1913	1268
1914	1188
1915	673
1916	514
1917	526
1918	391
1919	875

SINGLE PRIVATE DRAINS.

There were 156 complaints of nuisances received, compared with 90 in 1918. There were 200 tests applied to house drains and in 23 cases or 11.5% defects were found to exist.

There were 8 written complaints made to the Local Authority, regarding nuisances arising from single private drains belonging to two or more owners which required abatement under Section 41, of the Public Health Act, 1875, and Section 19, of the Public Health Acts Amendment Act, 1890.

OFFENSIVE TRADES.

There are 7 businesses established within the Borough which comprise the following offensive trades.

Tallow Melters	...	...	2
Tripe Boilers	...	...	3
Gut Scraper	...	...	1
Fat Extractor	...	...	1
Total			<hr/> 7 <hr/>

There were 20 inspections made of these premises during the year, and in one case a notice was served for the repaving of the yard.

COMMON LODGING HOUSES.

Month.	Males.	Females.	Total.
January ...	954	56	1010
February ...	855	14	869
March ...	1102	...	1102
April ...	1013	...	1013
May ...	1464	...	1464
June ...	1268	...	1268
July ...	1336	...	1336
August ...	1764	...	1764
September ...	1354	...	1354
October ...	1120	...	1120
November ...	1201	...	1201
December ...	1044	...	1044
	<hr/> 14,475 <hr/>	<hr/> 70 <hr/>	<hr/> 14,545 <hr/>

Two Common Lodging Houses on The Register, compared with 3 last year.

UNSOUND FOOD.

There were 112 seizures of unsound food compared with 46 in 1918. These comprised 538 stones 4 lbs. of beef, 66 stones 10 lbs. of mutton and lamb, 44 stones 8 lbs. of pork, 36 stones 12 lbs. of veal, 46 stones 10 lbs. of bacon, 92 tins of lobster, 4 bags of oysters, 51 stones of fruit, 4 bags of mussels, $14\frac{1}{2}$ pairs of kippers, 70 eggs, 16 boxes of herrings, 106 cases of dates, 60 lbs. of currants, $170\frac{3}{4}$ lbs. of butter, 2 crates of cauliflowers, and 7 lbs. of corned beef.

The articles seized were destroyed on a Magistrate's Order in 64 instances, and in the remaining cases by consent of the owners.

The condemned meat was mostly boiled down at the Tallow Chandlery and the amount received in salvage was £12-4-6.

In one instance the owner was fined £1 including costs.

In another case the defendant was committed to prison for one month, without the option of a fine.

The following table summarises the seizures of unsound food during the past 10 years.

Year.	No. of Seizures.	Beef. lbs.	Mutton. lbs.	Lamb. lbs.	Pork. lbs.	Veal. lbs.	Tripe. lbs.	Rabbits.	Fish.	Fruit. lbs.	Vegetables.	Condensed Milk.	Poultry.	Miscella- neous.
1910	26	3214	12	...	353	...	...	24	...	112	...	...	...
1911	29	3143	...	...	204	...	206	...	5 cwt. 3 qr. 14 lbs.	289	236	...	16	
1912	13	3499	9	...	158	68	...	...	4 cwt. whelks	558	...	302	...	
1913	40	5993	30	...	170	...	...	...	7 lbs. prawns 420 lbs.	451	...	...	...
1914	36	4571	95	...	875	...	3	55	73 lbs.	89	...	...	...
1915	25	5067	968	...	388	...	...	...	5 st. mussels 48 bags whelks.	44	36	...	...	20 st. flour.
1916	33	6923	177	...	34	279	..	...	85 st. whelks 9½ lbs. prawns	84	...	...	...	15 st. wheat meal. 56 lbs. creampowder 56 lbs. sugar.
1917	17	3138	12	5	60	30	...	...	...	...	...	...	...	3 cwt. 2 qrs. 26 lbs. butter beans.
1918	46	5687	98	47	795	...	...	11	270 lbs. 11 bags whelks. 2½ boxes kippers.	...	...	...	...	2½ lbs. bacon. 86 lbs. cheese
1919	112	538 st. 4 lbs.	66 st. 10 lbs.	...	44 st. 8 lbs.	36 st. 12 lbs.	...	...	92 tins lobster 4 bags oysters 16 boxes herrings. 14½ pairs kippers.	106 cases dates. 51 st. fruit. 60 lbs. curr- ants.	2 crates cauli- flowers	...	70 eggs	170 lbs. butter 44 st. 10 lbs. bacon.

FACTORY AND WORKSHOPS ACTS, 1901.
REGISTERED WORKSHOPS.

Workshops on Register (S 131) at the end of the year.	Number.
Bakehouses	43
Tailors, Dressmakers and Milliners	78
Joiners and Cabinet Makers	41
Laundries	8
Boot and Shoe Makers and other workers in leather	25
Workers in Tin, Iron and Lead	44
Offensive Trades and Fish Curing Houses ...	14
Miscellaneous	28
Total number of Workshops on Register	281

INSPECTIONS.

PREMISES.	NUMBER OF		
	Inspections.	Written Notices.	Prosecutions.
Factories (including Factory Laundries)	10	...	...
Workshops (including Workshop Laundries)	183	22	...
Workplaces (other than Outworker's premises included in part 3 of this report.)	31	5	...
	224	27	...

DEFECTS FOUND.

Particulars.	Found.	Remedied.	Referred to H.M. Inspector.	Number of Prosecutions.
<i>Particulars under Public Health Acts:—</i>				
Want of cleanliness... ..	9	9	..	...
Want of ventilation	2	2	...	...
Overcrowding ... ..	...	...	...	...
Want of drainage of floors... ..	...	..	...	...
Other nuisances	9	9	...	...
Sanitary accommodation { insufficient	2	In hand	...	...
{ unsuitable or defective... ..	1	1	...	...
{ not separate for sexes	1	In hand	...	...
<i>Offences under the Factory and Workshops Acts :—</i>				
Illegal occupation of underground bakehouses (Sec. 101)... ..	...	...	...	...
Breach of special sanitary requirements for bakehouses (Sec. 97 to 100)	1	1	...	...
Other offences (excluding offences relating to outwork which are included in Part 3 of Report)	2	2	...	...
Total	27	24	...	...

OTHER MATTERS.

Class.	Number.
Matters notified to H.M. Inspector of Factories:—	
Failure to affix abstract of the Factory and Workshops Act, Sec. 133...	4
Action taken in matters reported by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshops Act, Sec. 5	13

LIST OF HOME WORKERS (Sec. 107).

Six firms employing outworkers engaged in clothing.

All found satisfactory.

SALE OF FOOD AND DRUGS ACTS, 1875-1899.

During the year 60 samples of Food and Drugs were submitted for analysis, as compared with 59 in 1918. Of this number 12, or 20%, were certified to be adulterated.

In two instances the sellers were summoned before the Justices as follows.

In one instance water added to the milk, 5.5%.

Milk deprived of fat 18%.

In other case, water added to milk 5.5%.

Milk deprived of fat 7.5%.

Both of these milks were derived from the same source.

The Magistrates being satisfied, from the evidence produced, that the milk had not been tampered with, and was the same as taken from the cow, the cases were dismissed.

The other samples adulterated were milk to a minor degree and the sellers were cautioned by the Town Clerk.

All the other samples submitted for analysis, were certified by the Public Analyst to be genuine.

Appended is the usual Table shewing the number of samples taken &c., for 10 years.

Year.	No. of Samples taken.	Genuine.	Adulterated.	Percentage.	No. of Fines inflicted.
1910.....	121	91	30	24.79%	9 18 6
1911.....	119	94	25	21.0%	1 0 0
1912.....	123	104	19	15.5%	1 0 0
1913.....	117	91	26	21%	2 0 0
1914.....	101	69	32	31.5%	4 cases dismissed.
1915.....	83	68	15	18%	5 0 0
1916.....	115	92	23	20%	5 0 0
1917.....	70	57	13	18.5%	1 0 0
1918.....	59	53	6	10.1%	3 cases dismissed.
1919.....	60	48	12	20%	2 „ „

SUMMARY OF ARTICLES PRODUCED FOR ANALYSIS AND HOW DISPOSED OF
DURING THE YEAR 1919.

Nature of Article.	No. of Samples taken.	Genuine.	Adul- terated.	Convic- tions.	Dismissed on payment of costs.	No. of proceed- ings taken.	Penalties Imposed.
Milk	46	34	12	None.	2	2	...
Butter	2	2	...	...	...	...	...
Margarine	2	2	...	...	...	...	...
Lard	2	2	...	...	...	...	...
Coffee	2	2	...	...	...	...	...
Vinegar	2	2	...	...	...	...	...
Baking Powder	2	2	...	...	...	...	...
Mustard	2	2	...	...	...	...	...
Totals	60	48	12	...	2	2	...

DAIRIES, COWSHEDS AND MILKSHOPS.

There are 16 cowsheds on the Register compared with 17 last year.

The cowsheds were inspected as usual and the general conditions obtaining were noted as fairly satisfactory.

In two instances, improvements were made in the drainage and ventilation of the cowsheds.

Whilst in several instances, the keeper's attention was called to the necessary cleansing of the premises.

In addition thereto, there are 105 purveyors of milk on the Register, the same number as last year. Of this number 5 were cancelled and 5 registered during the year.

PIG STYES.

During the year 2 special licenses were issued to those who wished to keep pigs, the Bye-laws being relaxed in certain particulars, thus enabling pigs to be kept under less rigorous conditions, as to situation &c., as compared with 22 in 1918.

FISH CURING HOUSES.

There were 9 of these premises operating, compared with 10 in the previous year. Weekly inspections were made during the herring season, namely:— July, August, and September. Special care is taken to ensure the frequent removal of refuse and prevent stoppage of drains.

In one instance there were no sanitary conveniences provided for both sexes employed. In the second instance, the approach to the sanitary convenience was blocked by fish refuse barrels.

The first named matter was reported to the Local Authority, but immediately afterwards the Fish Curing House was closed for the season, and the matter is in abeyance. The second named matter was attended to.

INFECTIOUS DISEASE AND DISINFECTION.

The following Table summarises the work of the Inspector's Department, in connection with disinfection, after infectious disease:—

Cases removed to the Sanatorium	...	...	267
Rooms disinfected	...	...	332
Beds	...	...	238
Pillows and Bolsters	...	...	662
Blankets	...	...	563
Sheets	...	...	369
Counterpanes	...	...	159
Rugs and Quilts	...	...	145
Carpets and Curtains	...	...	17
Towels	...	...	185
Eiderdowns	...	...	31
Personal Clothing	...	...	718
Sundries...	...	...	348
Total	...	...	4034

One eiderdown was destroyed on request of owner.

I am, Sir,

Your obedient servant,

JAMES BASTIMAN.

SCHOOLS.—The cleaning of some of the public elementary schools has not been as thorough as it should be. On attention being drawn to this, the Education Committee has taken suitable action.

Another matter which has been brought to the notice of the Education Committee, is the fact that in some schools there is overcrowding of classrooms. The causes of this appear to be (1) lack of accommodation and (2) shortage of teachers. This is a serious matter especially when, as is often the case in cold weather, windows are kept closed; further reference is made to it, in the report on the prevalence of diphtheria. The Education Committee has been recommended to lay down 10 sq. ft. as the minimum floor space per child, and to display in each class room a notice stating the maximum number of children which it can accommodate on that basis.

Measures have been taken to improve the ventilation of Gladstone Road School.

The water supply and sanitary conveniences of the schools are satisfactory. Recommendations were made for dealing with a badly ventilated urinal.

CLOSURE OF AND EXCLUSION FROM SCHOOL.—The Girls' Department of Gladstone Road School was closed on December 5th, until after the Christmas holiday, on account of diphtheria.

The number of diphtheria carriers excluded from the schools during 1919 was 280; the great majority of these were treated at the School Clinic.

FOOD.

(a) MILK SUPPLY.—From the Inspector's Report it will be noticed that of the 46 samples of milk taken for analysis, 12 were found to be deficient in fat, i. e. to contain less than the 3% minimum laid down by the Board of Agriculture. Two of the worst samples in addition to being deficient in fat, contained 5½% of "added water." The sellers were brought before the magistrates, who being satisfied that the milk was as taken from the cow, dismissed the cases on payment of costs.

The 34 samples certified as genuine shewed an average of 3.51% of fat.

Reference is made to the inspection of cowsheds in the report of the Inspector of Nuisances.

During the course of inspection of milk shops, six instances of milk being kept uncovered were found.

One dairy was found in a dirty condition. After the service of a legal notice the premises were cleansed and white-washed.

No action was taken during the year as to tuberculous milk, beyond the inspection of cows kept within the borough.

REPORT OF ADMINISTRATION IN CONNECTION WITH THE PUBLIC
HEALTH (MILK & CREAM) REGULATIONS, 1912 & 1917.

REPORT FOR THE YEAR ENDED 31st DECEMBER, 1919.

1. Milk ; and Cream not sold as Preserved Cream.

	(a) Number of samples examined for the presence of a preservative.	(b) Number in which a preservative was reported to be present.
Milk	46	0
Cream	0	0

2. Cream sold as Preserved Cream.

No Cream was sold as Preserved Cream during 1919.

3. Thickening Substances. Any evidence of their addition to Cream or to Preserved Cream.

None.

MILK (MOTHERS AND CHILDREN) ORDER, 1918.

Under this Order there were supplied free, the following amounts of dried milk :—

	Amount.	Cost.
		£ s. d.
To Expectant Mothers	10 lbs. ...	1 1 8
„ Nursing Mothers	5 packets ...	16 3
„ Infants	47 lbs. ...	5 18 1
		<hr/>
		£7 16 0

(b) OTHER FOODS.—Reference to unsound food and food inspection, and the sanitary condition of premises where foods are manufactured, &c, will be found in the report of the Inspector of Nuisances.

All slaughtering in the borough, except in the case of a few sheep, was done at the public abattoir, and all meat killed was inspected there. Meat killed outside and brought into the borough, was also subject to inspection at the public abattoir.

All casualties were inspected.

(c) SALE OF FOOD AND DRUGS ACTS.—See report of the Inspector of Nuisances.

PREVALENCE OF, AND CONTROL OVER INFECTIOUS DISEASES.

The numbers of cases of infectious diseases notified during 1919, are given in Table XIX.

In comparison with the previous year's figures, measles shews a very great decrease, and diphtheria a considerable increase. The latter accounts for nearly half the total notifications. A report upon its prevalence in the town, was presented to the Council early in 1920, and is printed below.

TABLE XIX.
CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR, 1919.

NOTIFIABLE DISEASE.	NUMBER OF CASES NOTIFIED.								TOTAL CASES NOTIFIED IN EACH LOCALITY (WARDS).						Total Cases removed to Hospital
	All Ages.	Under 1.	1 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 years and upwards.	N.W.	N.	C.	E.	W.	S.	
Small-pox ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria (including Membranous croup)	244	1	34	182	18	8	1	...	55	29	21	51	84	4	220
Erysipelas	13	...	...	...	...	8	3	2	2	4	2	2	2	1	...
Scarlet Fever	61	...	7	44	5	3	2	...	16	9	5	14	9	8	44
Typhus Fever ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	2	...	...	1	...	1	...	...	...	...	...	...	...	2	1
Relapsing Fever ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Continued Fever ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	7	...	...	...	4	3	...	...	3	...	1	...	3	...	...
Cerebro-Spinal Meningitis	1	...	...	...	1	...	...	...	1	...	...	...	...	...	...
Poliomyelitis... ..	2	...	1	...	1	...	...	...	...	...	...	...	...	2	2
Ophthalmia Neonatorum	15	15	...	...	...	...	...	...	4	5	1	1	4	...	...
Pulmonary Tuberculosis	40	...	...	1	6	23	9	1	13	8	4	6	6	3	...
Other Forms of Tuberculosis	13	...	3	4	2	3	1	...	...	6	4	2	1	...	...
Measles	53	6	11	29	3	3	1	...	12	13	4	9	10	5	...
German Measles	28	...	2	19	2	4	1	...	2	2	5	3	2	14	...
Acute Influenzal Pneumonia	9	1	...	...	1	5	1	1	3	2	1	1	...	2	...
Acute Primary Pneumonia	18	1	1	1	3	9	1	2	5	3	2	...	2	6	...
Malaria	17	...	...	...	7	9	1	...	4	5	1	7	...	...	...
Dysentery	2	...	...	...	1	1	...	...	...	1	1	...	...	...	...
Trench Fever... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	525	24	59	281	54	80	21	6	120	87	52	96	123	47	267

Table XX. shews the annual numbers of notifications of each disease since 1890, when Notification of Infectious Diseases was begun in the Borough under the Scarborough Improvement Act, 1889.

TABLE XX.

Year.	Small-Pox.	Scarlet Fever.	Diphtheria and Membranous Croup.	Typhus Fever.	Enteric and Continued Fever.	Puerperal Fever.	Erysipelas.	Cerebro Spinal Meningitis.	Poliomyelitis.	Infantile Ophthalmia.			
1890.....	...	61	27	...	40	1	Not notifiable until 1900.	Not notifiable until 1912.	Not notifiable until 1912.				
1891.....	...	41	23	...	41	...							
1892.....	51	78	13	...	25	...							
1893.....	46	143	21	...	44	...							
1894.....	...	136	15	...	64	2							
	97	459	99	...	214	3							
1895.....	...	59	12	...	109	1							
1896.....	...	86	8	...	42	4							
1897.....	...	202	6	1	23	2							
1898.....	...	151	25	...	27	1							
1899	90	57	...	69	2							
	...	588	108	1	270	10							
1900.....	...	152	23	...	25	1	16						
1901.....	...	122	29	...	33	1	15						
1902.....	...	64	64	...	20	1	17						
1903.....	27	55	31	...	20	3	25						
1904.....	2	93	16	...	16	1	24						
	29	486	163	...	114	7	97						
1905.....	...	54	14	...	10	1	20						
1906.....	...	28	18	...	14	1	33						
1907.....	...	19	12	...	20	3	17						
1908.....	...	47	11	...	16	...	11						
1909	226	16	...	3	1	15						
	...	374	71	...	63	6	96						
1910.....	...	79	37	...	14	6	14						
1911.....	...	66	55	...	32	...	16						
1912.....	...	26	31	...	13	1	16	...	1				
1913.....	...	63	23	...	4	...	14	...	...		
1914.....	...	200	25	...	5	3	22	...	...	6	
	...	434	171	...	58	10	82	...	1	6			
1915.....	...	105	58	...	4	1	13	...	..	10	
1916.....	...	96	20	...	1	1	14	1	...	8			
1917.....	...	5	98	...	2	...	8	...	...	2	
1918.....	...	34	185	...	2	1	6	2	...	9			
1919.....	...	61	244	...	2	7	13	1	2	15			
	...	301	605	...	11	10	54	4	2	44			

It is worthy of note that the number of notifications of Scarlet Fever, received during the five years 1915—19, is much lower than any of the previous five-yearly totals, while in the case of diphtheria, the figure is far the highest recorded.

The very greatly diminished prevalence of typhoid fever during recent years is due mainly to improved sanitation, and to some extent no doubt to the protection of a large proportion of the young adult male population by anti-typhoid inoculation.

Sickness rates per 1,000 of the population during 1919 in Scarborough, and in the aggregate of other urban districts, are given in the following table.

TABLE XXI.

	Small-pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Puerperal Fever.	Erysipelas.	Cerebro-Spinal Fever.	Poliomyelitis.
SCARBOROUGH.	0.00	1.59	6.36	0.05	0.26	1.41	0.03	0.05
Aggregate of Non-County Boroughs and Urban Districts of England, (Excluding London).	0.01	2.04	1.48	0.11	0.04	0.42	0.02	0.01

The apparently high figures for Scarborough, in respect of the last two diseases, are of no significance, as they represent only 1 and 2 cases respectively. Nor is the erysipelas rate of any importance: erysipelas is an indefinite disease and most cases are very slight. As regards Small-pox, Scarlet Fever, and Enteric Fever, Scarborough compares favourably with other Urban Districts as a whole. On the other hand the diphtheria and puerperal fever sickness rates in Scarborough during 1919, were very high.

SMALL-POX:—No case occurred during the year. One can only be thankful for this, in view of the increasing and alarming neglect of vaccination in the town. I am indebted to the Clerk to the Guardians for the following figures. Of the total number of births during the year, 474 were accounted for

by the vaccination officer. Of these 119 were vaccinated successfully, 2 were found insusceptible, and the remaining 353 or 74% of the total were granted exemption orders. At this rate it will not take long for Scarborough to become an unvaccinated town. Even now it is unpleasant to think of what might easily happen if a case of small-pox occurred at the height of the season, an event not at all unlikely in a place which draws visitors from all over the country. A mild case not immediately diagnosed might lead to an uncontrollable outbreak, with results which there is no need to describe. Scarborough cannot insist on its visitors being vaccinated but it can enforce a large measure of protection among its own people, and surely it is its duty to do so.

During the year, five re-vaccinations were performed among the Sanatorium Staff, by the Medical Officer of Health, under the Public Health (Small-pox Prevention) Regulations, 1917.

PUERPERAL FEVER.—The high sickness rate from puerperal fever in Scarborough, amounting to six times the rate in other Urban Districts, points to the urgent necessity of a better maternity service in the town. The need for a maternity home, has been discussed in an earlier part of this report (see page 21).

DIPHTHERIA.—The number of cases notified during the year was 244, of which 36 died, a mortality of 14.8%.

Of the 220 cases removed to the Sanatorium, 29 or 13.2 per cent died, while of the 24 cases treated in their own homes, 7 or 29.2 per cent died. These figures shew the value of the Sanatorium as a life saving institution.

There were many severe cases which rapidly passed beyond cure by antitoxin, even when given in considerable dose as early as the second day. Whenever there is the least suspicion that a child has diphtheria, antitoxin should be given at once; a delay of even an hour or two, may make the difference between life and death. It cannot too often be repeated, that if a sufficient dose of antitoxin be given on the first day of the disease, the patient's recovery is assured. Nothing is gained by waiting for the result of a bacteriological examination, since a negative result does not absolutely disprove the presence of diphtheria. At the Sanatorium, antitoxin is given intra-muscularly, in doses varying from 12,000 to 20,000 on admission, and thereafter 8,000—12,000 units daily until the throat is clean. There have been remarkably few cases of serum rashes or joint pains.

The total amount of antitoxin used at the Sanatorium during the year, was 1,580,000 units.

As in former years, a supply of antitoxin was always available at the Health Office, and at Messrs. Crosby & Co's shop in Newborough. The amount thus distributed was 474,000 units. In 1918 it was 120,000 units.

Early in 1920, the Ministry of Health called for a special report on the prevalence of diphtheria in Scarborough, and on the measures taken to control it. The following report was accordingly presented to the Health Sub-Committee.

It should be stated here that since the report was written, there has been a very great decline in the prevalence of the disease, a decline which one is justified in attributing in no small degree to the large number of carriers discovered by swabbing, and treated at the School Clinic.

HEALTH DEPARTMENT,

KING STREET,

SCARBOROUGH,

February, 1920.

*To the CHAIRMAN and MEMBERS of the
HEALTH SUB-COMMITTEE.*

Ladies and Gentlemen,

In accordance with your instructions I have prepared the following report on the prevalence of Diphtheria in the town, and on the measures taken by me to check the spread of the disease.

The present outbreak has now lasted for thirty months. Some idea of its comparative extent, may be gained from the total numbers of cases notified year by year since 1890, when notification was introduced in Scarborough.

TABLE 1.

Year.	Total Cases Notified.	Year.	Total Cases Notified.	Year.	Total Cases Notified.
1890.....	27	1900.....	23	1910.....	37
1891.....	23	1901.....	29	1911.....	55
1892.....	13	1902.....	64	1912.....	31
1893 ...	21	1903.....	31	1913	23
1894.....	15	1904.....	16	1914.....	25
1895.....	12	1905.....	14	1915.....	58
1896.....	8	1906.....	18	1916.....	20
1897.....	6	1907.....	12	1917.....	98
1898....	25	1908.....	11	1918.....	185
1899.....	57	1909.....	16	1919.....	242

The course of the outbreak is shewn diagrammatically in Table 2*, in which the vertical columns represent the numbers of cases falling sick week by week, since the beginning of 1917; the black and shaded portions of the columns represent respectively school cases and non-school cases. By school cases I mean cases occurring among children on the books of the public, primary, and secondary schools in the Borough. The horizontal red bands above the vertical columns mark the periods during which the schools were closed for holidays.

To a casual glance at the table, it may not appear that closure of the schools is followed by a fall, and re-opening by a rise in the numbers of cases. In 1919, the summer closure and subsequent re-opening do seem to have had these results, but in 1918, there is no such sequence: the fall in the number of cases in the second week of the holidays was not maintained, and a very sharp rise occurred in the last week of the holidays, before the schools re-opened at all, whereas after the re-opening, there was a progressive fall in the number of cases.

It is possible, however, that the expected sequence may be present but masked by two disturbing factors:—

- (1) The outbreak in the last week of the holiday was localised in one small part of the town. It appears to have been due to some special local factor, and not in any way to the operation of a general cause.
- (2) The fall after the schools re-opened was probably due to the exclusion of carriers discovered by swabbing.

* Not reproduced here.

However this may be, analysis of the figures reveals distinct evidence that school conditions favour the spread of diphtheria. If, corresponding to each school holiday during 1918 and 1919, we take a period beginning and ending 5 days later, and if we take the total number of days in these periods, and also the total number of school cases of diphtheria falling sick in the same periods, we get the following figures.

No. OF DAYS.	No. OF CASES.
154	55

This is equivalent to 121 cases in twelve months.

For the remainder of the two years the figures are:—

No. OF DAYS.	No. OF CASES.
576	259

This is equivalent to 164 cases in twelve months,
an increase of 43 on the former figure.

No doubt this result is partly discounted by the fact that the school holidays occur for the most part during the 2nd and 3rd quarters of the year, when diphtheria tends to be least prevalent, while there is only one short holiday during the 4th and 1st quarters, which include the season of greatest prevalence of diphtheria. On the other hand the holidays are so short comparatively, that one would hardly expect the figures to shew much difference, unless the effect were strongly present. I think, therefore, that these figures may be taken as shewing that the schools are, to a great extent, responsible for the spread of diphtheria.

The experiment next to be described, lends strong support to this contention. Between September 22nd and December 18th, nineteen cases of diphtheria occurred in the girls' department of Gladstone Road School. On December 8th, a fortnight before the Xmas holiday, this department was closed, and between December 10th and 18th, all the girls were swabbed. Only those who were found to be free from infection, were allowed to return to the school after the holidays. The result has been, that since December 18th, not one case has occurred in this department, whereas up to that date, they were occurring at the average rate of one every four to five days.

TABLE 3.

Standard.	No. of Pupils.	Area Square feet.	Area per head Square feet.	Positive.	Negative.	Percentage of Carriers.
I.	53	535	10·1	18	34	35
II.	47	539	11·5	12	34	26
III.	49	541	11·0	4	42	9
IV.	44	358	8·1	5	35	12½
Va.	39	374	9·6	10	25	29
Vb.	45	600	13·3	3	39	7
VI.	37	600	16·2	6	29	17
VIIb.	37	525	14·2	6	29	17
Ex. VII. and VIIa....	27	357	13·2	2	25	7
Whole School	378	4429	11·7	66	292	18

In Table 3 are given for each class and for the whole school, the floor space per child, the number of children found positive and negative on swabbing, and the percentage of carriers. The latter, it will be seen, ranges from 7 in Standards Vb and VIIa to 35 in Standard I: for the whole school the figure is 18.

These figures are high, and while it is certain that not all the children found positive were carriers of virulent diphtheria bacilli, it is probable that the great majority of them were; the minority being carriers of non-virulent diphtheria bacilli or of bacilli morphologically indistinguishable from diphtheria bacilli.

There is no evidence of any connection between the degree of crowding and the proportion of carriers in the classes. It is otherwise with the numbers of cases of diphtheria which have occurred in the different classes. The figures, of course, are small, but so far as they go they are strongly suggestive of a close association between overcrowding and incidence of diphtheria.

TABLE 4.

Standard.	Floor space per child.	Cases of Diphtheria.
IV. ...	8·1	7.
Va. ...	9·6	4.
I. ...	10·1	2.
III. ...	11·0	2.
II. ...	11·5	1.
Ex VII and VIIa. ...	13·2	1.
Vb. ...	13·3	2.
VIIb. ...	14·2	0.
VI. ...	16·2	0.

One carrier is apparently more dangerous in a crowded class than several in an uncrowded class. It is not possible at present to eliminate carriers altogether. We can reduce their numbers by swabbing and treatment, but however much of this is done, there will always be a few who are positive for a longer or shorter time before they are discovered. In addition, therefore, to lessening their numbers, we must ensure that conditions are as far as possible such that the danger from the undetected remainder is reduced to a minimum. The most obvious way of doing this is to abolish overcrowding in the schools. The Board of Education's allowance of floor space per child is 10 sq. feet. Less than this should never be permitted, and in my opinion 12 sq. feet should be allowed wherever possible.

A remarkable feature of the epidemic is the sex distribution of the disease. From the beginning of 1917 to the present date the total number of cases occurring, with the number of males and females attacked, among school and non-school cases, are shewn in the following table.

TABLE 5.

					No. of females per 100 males.			
		Males.		Females.			Males.	Females.
Total cases	...	223	...	355	...	100	...	156
School cases	...	155	...	262	...	100	...	170
Non-school cases		68	...	93	...	100	...	138

The excess of females among non-school cases is perhaps to be expected, inasmuch as there is closer contact between them and sick children than there is in the case of male members of a family. But the much greater excess amounting to 70% among school cases is more difficult to explain. There is no difference in the numbers of girls and boys in the schools to account for it. Possibly the behaviour of girls in the play intervals has a great deal to do with it. Girls have a habit of wandering about in pairs with their arms round each others necks, and their games seem to involve a closer degree of contact than in the case of boys. Another possible explanation is that the teachers in the girls' schools may be more inclined to shut the windows on account of draughts than they are in the boys' schools, the result being a greater prevalence among girls than among boys of an unhealthy condition of the respiratory mucous membrane.

The measures taken to check the spread of the disease are as follows :—

(1.) Greater care has been taken to ensure that convalescent diphtheria patients are free from infection before they are discharged from the Isolation

Hospital. From the time they get up, their noses and throats are sprayed three times daily with mixture of equal parts of electrosal and water—a hypertonic solution containing free chlorine.

Moreover the practice has been resumed of requiring from each patient before being discharged, that the throat and nose should be simultaneously negative on two consecutive swabbings. At some time during the last two years, owing, no doubt, to pressure on the accommodation, this rule was relaxed, so that the throat and nose have been required to be negative only once each, and that not simultaneously. This was a short sighted policy. Even now under the stricter regime patients are occasionally found to have become positive again within a short time after leaving the hospital. The same rule is, of course, enforced in respect of the few patients who are treated in their own homes.

(2.) All members of every household in which a case has occurred are swabbed, and all found positive are treated. In most cases the treatment is carried out at the School Clinic; the remainder are treated by their own doctors. School children thus found positive are in no case allowed to return to school until they have given two consecutive negative swabs.

In this way as many as four carriers have been found in one home.

(3.) Schools and classes in which diphtheria has shewn signs of becoming prevalent have been swabbed, and all carriers thus discovered are treated at the School Clinic, and excluded from school until they have given two consecutive negative swabs.

The treatment given at the School Clinic is daily spraying of throat and nose with electrosal.

The results of this treatment of the carriers found in the girls' department of Gladstone Road School may here be given. All the swabs were examined by me personally so that the results throughout are strictly comparable.

Of the 66 girls found to be carriers, three did not continue under my supervision, and four have persistently given positive swabs up to the date of this report. The remaining 59 became negative under treatment within the periods shewn in Table 6. These periods are the intervals between the beginning of treatment and the first of two consecutive weekly negative swabs.*

*On March 3rd (since this report was written) 57 of these girls were re-swabbed, with the result that 45 of them were found to have remained negative, and 12 to have become positive—10 mildly and 2 markedly so.

TABLE 6.

Periods within which treatment was successful.

4 girls became negative within 1 week.				
30	„	„	„	2 weeks.
15	„	„	„	3 „
5	„	„	„	4 „
1 girl	„	„	„	5 „
2 girls	„	„	„	6 „
1 girl	„	„	„	7 „

(4.) The following measures have been recommended to the Education Committee, and action has been or is being taken by them on the lines indicated.

(i.) Improvement in the ventilation of class rooms where necessary.

(ii.) Abatement of overcrowding in class-rooms, so as to allow not less than 10 sq. feet, and where possible 12 sq. feet of floor space per child.

(iii.) Abolition of the common towel in school lavatories.

(iv.) Provision of a separate receptacle for each child's pencils, chalks, etc.

(5.) The Corporation has been advised to appoint a whole time laboratory assistant to carry out swabbing and other routine bacteriological work under the supervision of the Medical Officer of Health. This appointment will shortly be made. It is hoped that by continuing during spring and summer the bacteriological examinations of home and school contacts, and the treatment of all carriers thus discovered, the latter part of this year will not witness such a recrudescence of diphtheria as has occurred in the last three years.

I am, Ladies and Gentlemen,

Your obedient Servant,

S. FOX LINTON, M.D., M.Sc., D.P.H.,

*Medical Officer of Health, and
School Medical Officer.*

Table 2 in the foregoing report was a diagrammatic representation of the course of the outbreak since its beginning in 1917. In place of it the following figures may be given :—

QUARTERLY NUMBERS OF CASES FALLING SICK OF DIPHTHERIA.

Year.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
1917.....	5	4	24	61
1918.....	49	34	59	46
1919.....	46	34	50	112
1920.....	94	27	41	...

It will be seen that a very great decline is taking place in the prevalence of the disease. Since the beginning of 1920, 4,601 swabs have been examined, and 280 carriers thus discovered have been treated at the school clinic ; there can be no doubt that this laborious work, which is still being carried on, is now producing its anticipated result.

NON-NOTIFIABLE INFECTIOUS DISEASES.

The only source of information concerning these diseases is the school teacher, who is expected to inform the Medical Officer of Health immediately of the occurrence of a case or suspected case of infectious illness amongst children under his or her care. The information is sent on special forms. The school nurse then inquires into the case, recommends, where necessary, that medical attention should be obtained, and gives simple instructions regarding the prevention of infection. If the case is infectious, instructions are sent to the school concerned to exclude the patient and other children in the household.

During the year 10 cases of whooping cough, 111 cases of chicken pox, and 32 cases of mumps were reported in this way.

TUBERCULOSIS.—Although Scarborough, not being a County Borough, has not a tuberculosis scheme of its own, a short account may here be given of the means employed in the town for the prevention and treatment of this disease. They fall under three headings :—

(1.) Dispensary treatment. On Monday afternoons from 2-30 to 4-30 the Medical Officer of Health, as local Tuberculosis Officer under the North Riding County Council Scheme, sees patients at the dispensary, rooms at the Infant Welfare Centre at 152, Victoria Road being used for that purpose. Patients attend regularly, their temperature and weight are taken, advice is given, and suitable treatment recommended. The number of patients who attended during the year was 78, and the total number of attendances 741. A considerable number of actual or suspected cases of tuberculosis attend under instructions from the Local War Pensions Committees at Scarborough and Whitby.

(2). Visiting and nursing by the nurses of the Scarborough District Nursing Association.

The Medical Officer of Health passes on to the District Nursing Association the names and addresses of all notified cases of tuberculosis, with the exception of a few who, he is assured either by the Medical man in attendance or otherwise, do not need visiting.

The District Nurses then visit and give advice and instructions, and in addition take on a certain number of cases for nursing. During 1919 the number of visits thus paid to cases of tuberculosis was 983, of which 39 were first visits. The number of cases taken on for nursing was 20.

(3.) Treatment at the Borough Isolation Hospital.

A wood and iron building, put up nearly 30 years ago for the isolation of small-pox cases is now used for the accommodation of patients in the pre-tuberculosis or early stage of tuberculosis.

Only those are admitted who cannot obtain sanatorium treatment under the Insurance Act. Children, for the most part in the pre-tuberculosis stage, constitute the great majority of the patients, and the healthy regime to which they are subjected almost invariably produces in them a very remarkable response.

To take three instances of this :—

CASE 1.—Boy, aged 10.

				st.	lbs.	oz.
Weight—March 24th, 1919	...	...	...	3	4	8
„ June 30th, „	...	...	...	3	4	8
(Admitted to Sanatorium, July 2nd. Discharged October 10th).						
Weight—October 13th, 1919	...	...	...	3	9	12
„ July 19th, 1920	...	...	...	3	10	4

(Admitted to Sanatorium, July 20th, 1920).

				st.	lbs.	oz.
Weight on admission	...	...	...	3	10	4
„ „ July 24th, 1920	...	...	...	3	12	0
„ „ „ 31st, „	...	...	...	3	12	14
„ „ Aug. 7th, „	...	...	...	4	1	8
„ „ „ 14th, „	...	...	...	4	2	3
„ „ „ 21st, „	...	...	...	4	2	4
„ „ „ 28th, „	...	...	...	4	2	10

It will be seen that this boy during 10 months' home life, October, 1919—July, 1920, only gained 8 ounces in weight. He was then admitted to the Sanatorium, and in less than six weeks put on 6 lb. 6 oz.

CASE 2.—Girl, aged 12.

				st.	lbs.	oz.
Weight—May 31st, 1920	...	...	...	4	12	12
„ „ July 19th, „	...	...	...	4	12	12

(Admitted to Sanatorium, July 20th, 1920).

Weight on admission	...	...	...	4	12	12
„ „ July 24th, 1920	...	...	...	5	1	8
„ „ „ 31st, „	...	...	...	5	2	12
„ „ Aug. 7th, „	...	...	...	5	4	5
„ „ „ 14th, „	...	...	...	5	6	0
„ „ „ 21st, „	...	...	...	5	6	2
„ „ „ 28th, „	...	...	...	5	7	2

This child during seven weeks home life shewed no gain at all in weight. She was then admitted to the Sanatorium and in less than six weeks put on 8 lbs. 6 oz.

CASE 3.—Girl, aged 7.

				st.	lbs.	oz.
Weight—July 12th, 1920	...	...	...	2	8	15
„ „ „ 26th, „	...	...	...	2	8	11

(Admitted to Sanatorium, July 28th).

Weight on admission	...	...	...	2	8	11
„ „ July 31st, 1920	...	...	...	2	8	12
„ „ Aug. 7th, „	...	...	...	2	10	0
„ „ „ 14th, „	...	...	...	2	11	12
„ „ „ 21st, „	...	...	...	2	13	7
„ „ „ 28th, „	...	...	...	3	0	4
„ „ Sept. 8th, „	...	...	...	3	0	6
„ „ „ 11th, „	...	...	...	3	2	0

When admitted this child was looking ill and had been losing weight at home. In less than seven weeks at the Sanatorium she put on 7 lbs. 5 oz.

These three growing children on being admitted to the Sanatorium immediately began to put on weight at an abnormal rate. In their own homes they had been quite unable to gain any weight at all. The home conditions of one (Case 2) were not good, but the homes of the other two could not be described as bad, and the mothers of all three were anxious to do their best. Certainly there appeared to be no reason why, with intelligent care, the children should not have done better at home than they did. Their rapid improvement in the Sanatorium must be attributed to the fresh air, the good plain food, and the regular and sufficient rest provided. Of these three conditions the first only is impossible in the children's own homes; the slowness and arrest of the children's development at home must then be put down partly to the mother's failure to provide the second and third of the above-named conditions, a failure due to lack of knowledge rather than to lack of will.

It is evident that owing chiefly to ignorance and lack of parental authority and sometimes to neglect, many children in Scarborough are not properly cared for.

In addition to pure fresh air the three chief physical needs of a child are :—

- (1.) A sufficient amount of undisturbed sleep.
- (2.) A sufficient amount of plain unstimulating food.
- (3.) A sufficient amount of suitable clothing.

The needs of many children are satisfied in none of these respects, and of very many more in only one or two of them.

(1). Children between four and fourteen years old should have from nine to eleven hours of undisturbed sleep at night, in addition to what, in the case of the younger ones, is required in the day time. The air in the sleeping room should be fresh, for otherwise sleep loses half its value. This fresh air cannot be obtained unless the window be kept open all night.

Very many children do not get anything like enough sleep. It is common for quite young children to go to bed as late as ten o'clock, or even later, and if the household is astir at 6 a.m., undisturbed sleep ends after only seven or eight hours' duration.

In any school one may see children dull and heavy eyed from lack of sleep, and it is certain that much mental backwardness is due to this cause alone.

(2). Many children are unaccustomed to plain, unstimulating food, and are disinclined to eat it when it is put before them. This is constantly observed at the Sanatorium, where persuasion is frequently needed to overcome the distaste of convalescent children for the good plain food provided.

Porridge is not used nearly enough as an article of diet for children. With treacle and milk it forms a nutritious breakfast. Milk puddings are also an unknown dish to many children.

There is need for better instruction of the older girls in the schools, regarding the physiological value to growing children of different kinds of food.

(3). Clothing varies very much and often leaves much to be desired. In proportion to its bulk, a child loses heat more rapidly than an adult does. Hence the importance of warm clothing of body and limbs, if growth and energy are to be maintained. Cotton underclothing is common, and, need it be said, very unsuitable. A cotton garment worn next to the skin does not allow adequate ventilation to take place, the result being that perspiration does not evaporate and the underclothing becomes damp. Under these circumstances the skin cannot act properly, and chilling of the surface of the body occurs. Wool is the only suitable material for a child to wear next to its skin. It admits of sufficient ventilation, and can absorb a certain amount of perspiration without becoming damp.

It is not only the neglected child who is defrauded of its rights in the above three respects. The coddled child fares as badly if not worse. He sleeps in a close atmosphere, and under a heavy weight of bed clothes, so that refreshing sleep is impossible. He is encouraged to eat at too short intervals, with the natural result that his appetite fails. More "appetising" food is then provided, and the child's digestion suffers.

He is burdened with an excessive amount of clothing, which admits of little ventilation, the result being that a healthy action of the skin, and free expansion of the chest, are both impeded; and since in addition to this, there is frequent alternation between a stuffy indoor and a cold outdoor atmosphere, the child almost certainly develops chronic nasal and bronchial catarrh, the forerunner of tuberculosis in later years.

MATERNITY AND CHILD WELFARE.

(1). The supervision of mid-wives is exercised locally, under powers delegated by the North Riding County Council. Quarterly routine visits of inspection, and special visits when required, are paid to each midwife, by the senior nurse of the District Nursing Association, who reports regularly to the Medical Officer of Health. There were 8 midwives practising in the town at the close of the year, of whom only 4 are trained. Two of the latter, are on the Staff of the District Nursing Association, who receive towards their maintenance a subsidy of £200 per annum from the Corporation; they have done very valuable work indeed, work for which there is a very great need and which should not on any account be allowed to lapse.

Two of the untrained midwives were cautioned during the year for uncleanliness and for taking too many cases. One of these has, since the close of the year, been persuaded to retire from practice.

Twenty-seven routine visits and five special visits were paid to midwives during the year, by Miss Vickery, the senior nurse of the Scarborough District Nursing Association.

(2). The adequacy of the Maternity and Child Welfare Scheme, has already been discussed, (See page 21).

The general arrangements under the scheme during 1919, were as follows:—

Under the general supervision of the Medical Officer of Health, as Medical Officer to the Maternity and Child Welfare Committee, the work is carried out by the Assistant Medical Officer of Health, and the Health Visitor, aided by a very small number of voluntary helpers. The Maternity and Child Welfare Centre, 152, Victoria Road, is open every morning, for the sale of dried milk &c., and the treatment of minor ailments by the Health Visitor. On Tuesday and Thursday afternoons consultation clinics are held by the Medical Officer, assisted by the Health Visitor and one or two voluntary helpers. At these clinics, infants and children are weighed and brought before the Medical Officer for examination and advice. If infants do not thrive, the home conditions and methods of feeding are diligently and frequently investigated by the Health Visitor, who in this way usually succeeds in putting right what could not have been discovered in any other way. She devotes much time to the actual treatment of these failing infants by rubbing with oil, wrapping in cotton wool &c., and there is no doubt that infant lives have been saved by these measures.

The ladies on the Committee attend both the morning clinics and the Tuesday and Thursday afternoon consultation sessions. They constitute a small Committee for the investigation of necessitous cases, and decide which cases shall receive dried milk &c., free or below cost price.

No special methods of dealing with unmarried mothers and illegitimate children have as yet been instituted under the scheme. The St. Mary's Rescue Home provides accommodation for a small number of unmarried mothers and their babies, and these babies are brought regularly to the Infant Welfare Centre for advice &c.

The statistical summary of the work of the Health Visitor during the year, is as follows:—

Number of births	...	...	...	...	514
„ „ „ notified	...	...	...	...	458
Percentage of births notified...	...	...	...	...	89%
Number of first visits to infants	...	...	...	...	438
Total number of visits to infants and children	...	...	...	...	1,553
Number of visits as Infant Protection Visitor	...	...	...	...	178
Number of attendances of Infants and Children at Infant Welfare Centre	...	...	...	...	2,669
Number of cases treated at Centre for minor ailments	...	...	...	...	160

A service of “home helps” has been organised in Scarborough, for the assistance of mothers in need of such help at the time of their confinements.

The following is a short account of the scheme.

There are 20 girls at present on the list of available Home Helps. Their ages are from 18 to 26, and they are of the domestic servant class and without any previous training. Miss Chambers, the supervisor of the Home Helps, is also Health Visitor under the Insurance Act, and in the latter capacity comes into contact with the girls from whom she chooses her Home Helps.

The Home Helps do not as a rule sleep in. They prefer not to do this. Neither do they do any nursing.

The working hours are not necessarily consecutive. It is better that they should not be so. For instance, four hours in the morning and four in the evening, are more useful than eight hours on end.

The following slip gives the charges made to the householder.

The scale is relaxed in the case of large families.

HOME HELPS.

I agree to pay for the services of the Home Help provided, in accordance with the following scale :—

SCALE.

Income of Householder.	Payment.
£1 0s. 0d. per week... ..	3d. per hour. 1/- per day. 3/- per week.
£2 0s. 0d. per week... ..	3d. „ „ 1/- „ „ 4/- „ „
£3 0s. 0d. per week... ..	6d. „ „ 1/6 „ „ 6/- „ „

It is fully understood that the Home Help provides her own food.

Signature of responsible person,

Date,.....192

The payments made to the Home Helps are given in the next slip :—

SCALE OF REMUNERATION FOR HOME HELP.

For one hour's work the payment is...	9d.
„ two „ „ „ „ ...	1/6
„ four „ „ „ „ ...	2/6
„ a whole day of 8 hours the payment is ...	5/-
„ a night's work the payment is ...	4/-

Or 30/- per week full time.

For Sundays the payment to be on the same scale as week days.

The women will of course provide their own food.

If the Home Help sleeps in, the householder finds her food.

If she does not sleep in, and the householder finds her food, she receives 3/- per day of 8 hours instead of 5/-.

We find that the householders generally prefer to provide the Home Help's food.

The average number of families taking advantage of Home Helps at any given time is about 18. The scheme is intended to help mothers at the time of their confinement who otherwise would have had to do the whole of their housework, and the period of such help is from one week before to four weeks after confinement.

(3.) The incidence of puerperal fever has already been discussed. (See page 42).

Fifteen cases of ophthalmia neonatorum were notified during the year. Each of these was visited by a nurse from the District Nursing Association, and seven of them were nursed. These cases and also cases of measles are nursed by the District Nursing Association for an annual payment of £30 by the Corporation. Sixteen cases of measles were thus nursed out of 53 notified. The number of visits to ophthalmia cases was 155, and to measles cases 65.

SANITARY ADMINISTRATION.

(1.) The Sanitary Staff during the greater part of the year consisted of the Inspector of Nuisances and one Sanitary Inspector. Just before the close of the year a second Sanitary Inspector was appointed. The work done is sufficiently described in the report of the Inspector of Nuisances.

With regard to Riparian Sanitary Administration, the foreign shipping entering the district comprises about four timber carrying vessels from Norway, and perhaps an occasional foreign fishing vessel. On one occasion a Dutch fishing boat (sailing) anchored in the bay and was reported to have half-a-dozen sick men on board. The Medical Officer of Health went off to her and found one sick man. As he was very ill and not suffering from an infectious disease, this man was removed to the General Hospital, where he died two days later of nephritis.

Apart from this no vessels were boarded by the Medical Officer of Health or the Inspector of Nuisances during the year. Form B required by the Ministry of Health is appended.

FORM B.

NAMES OF VESSELS ARRIVING IN THE DISTRICT.		NAMES OF VESSELS SUBJECTED TO MEASURES OF RAT DESTRUCTION.			METHOD EMPLOYED	NUMBER OF RATS KILLED.
Plague Infected.	Plague Suspected.	Plague Infected.	Plague Suspected.	Other Vessels.		
0	0	0	0	0	0	0

(2.) Scarborough has its own isolation and small-pox hospitals. The former, situated rather less than a mile to the north of the borough boundary, consists of an administrative block, a laundry block containing disinfecting chambers, mortuary, etc., a porter's lodge and discharge block, and the following ward blocks :—

Scarlet fever block, consisting of two main wards containing six beds each, and two side wards. Total nominal accommodation—14 beds.

Diphtheria block consisting of two main wards containing four beds each, and two side wards. Total nominal accommodation—10 beds.

Observation block containing two small wards. Nominal accommodation—2 beds.

A wood and iron building containing two large wards and one small ward.

Normally this is used for the treatment and training of early cases of tuberculosis, chiefly children, (see page 50).

The normal accommodation has during the last two or three years been very greatly exceeded, owing to the prevalence of diphtheria.

During the latter part of 1919 and the first few months of this year, there were continually under treatment in the hospital 30—40 cases of diphtheria, and it was necessary to use both the scarlet fever and diphtheria blocks for them. Meanwhile scarlet fever was isolated in the wood and iron building. Now that diphtheria in the town has been reduced to nearly normal limits, two blocks are no longer needed for it, and scarlet fever is back in one of the brick blocks.

A proposal that the Scarborough Isolation Hospital should be expanded to serve the needs of a larger area, including Scalby Urban District and Scarborough Rural District, is at present under discussion. In the opinion of the Medical Officer of Health there are very strong arguments in favour of this proposal.

The provision of the additional accommodation for nurses and patients, which would be required, is the only real difficulty in the way.

The number of patients admitted suffering from each disease, with their average length of stay in the hospital, was as follows :—

Disease.	Number.	Deaths.	Average stay in days.
Scarlet Fever.	43	...	36
Diphtheria... ..	229	30||	31
„ Carriers	8	...	28
Tonsilitis	8+	...	9
Enteric Fever	1	...	42
Acute Poliomyelitis	1	...	35
Measles	1	...	14
Mumps	1†	...	11
No obvious disease	1‡	...	15
	293	30	31.5
Also admitted :— Phthisis or suspected phthisis.	13	...	82
Total admitted	306		

+ 7 of these were sent in as diphtheria and 1 as scarlet fever.

† Sent in as diphtheria.

‡ Sent in as scarlet fever.

|| Including 1 from outside the borough.

Four of the deaths from diphtheria occurred within 6 hours of admission.

(3). The following is a list of local Acts and general adoptive Acts in force in the district.

LOCAL ACTS.

- (1) The Scarborough Improvement Act, 1889.
- (2) The Scarborough Order, 1897.
- (3) The Scarborough Corporation Act, 1900.

Under (1) the Corporation has power to require re-pavement of yards, &c., the ventilation of soilpipes, and the provision of proper water closet flushing cisterns, and of water closets and urinals in Common Lodging Houses and Public Houses.

Under (2) powers similar to those under Section 36 of the Public Health Act, are given.

Under (3) the Corporation can deal with a single private drain from two or more houses belonging to the same owner, in the same way as if the houses belonged to different owners.

ADOPTIVE ACTS.

The Infectious Diseases (Prevention) Act, 1890, (Section 4).

The Public Health Acts Amendment Act, 1890.

The Public Health Acts Amendment Act, 1907, Section 46 of Part III, Sections 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 67, and 68, of Part IV, Sections 93, 94, and 95 of Part X, subject to the terms of the Order of the Local Government Board, of the 8th April, 1911, and Sections 85 and 86 of Part VII.

(4) WORK OF THE PUBLIC HEALTH LABORATORY.

The following tabulated statement shews the work done voluntarily by the Medical Officer of Health during the year.

Nature of Specimen and Purpose of Examination.	Result.		Total.
	Positive.	Negative.	
Nasal and throat swabs for diphtheria bacilli...	504	1654	2158
Throat swabs for vincent's angina ...	8	...	8
Sputum for tubercle bacilli	46	123	169
Urine " " "	...	2	2
" bacillus coli ...	1	...	1
Blood for Widal Reaction...	...	3	3
Cerebro-Spinal fluid for evidence of Cerebro-Spinal Meningitis ...	...	4	4
Cerebro-Spinal fluid for evidence of acute poliomyelitis	1	...	1
Pus for gonococci ...	2	2	4
Faeces for dysentery...	...	1	1
Saliva for leptothrix buccalis	1	...	1
Totals... ..	563	1789	2352

HOUSING.**(I). GENERAL HOUSING CONDITIONS IN THE TOWN.**

(1).	Total number of houses	...	...	...	9,751
	Number for working classes	...	...	...	6,558
	New houses for the working classes erected during the year or in the course of erection				0

(2). Population 38,350

(3). (a) Extent of shortage of houses.

See summary of housing survey below (page 65).

(b) Measures contemplated to meet shortage :

Under Part II of the Act of 1890 the erection of 324 houses on a site of 34·5 acres bordering on Seamer Road has been approved by the Ministry of Health. Some of these houses are now being built. A few houses are also to be built on prepared sites in various parts of the town.

(II). OVERCROWDING. (See summary of housing survey).

Overcrowding cannot be dealt with until the shortage of houses is remedied.

(III). FITNESS OF HOUSES.

(1). (a) The general standard of housing in the town is good, except in the East and part of the Central Wards, where it is very bad ; it is bad also in and around William Street and in one or two small areas in other parts of the town.

(b) The general character of the defects are dampness, bad ventilation, lack of provision for food storage, lack of yard space, lack of water-closet, and general bad state of repair.

(2). For action taken as regards unfit houses see appendices.

(3). No special measures were taken during the year to remedy unfitness, the chief difficulty in the way being the cost of labour and material, which has rendered adequate measures unremunerative.

- (4). Some houses have no water supply beyond a stand pipe outside. The privies converted into water-closets during the year numbered 51, but there are still 1,635 houses in the town with only privy accommodation. As regards refuse disposal, the weekly collection is insufficient in the poorer districts in view of the crowded and insanitary conditions prevailing there.

(IV). UNHEALTHY AREAS.

A small area of 1·1 acres in the East Ward containing 25 houses was represented during the year as an unhealthy area under part I of the Act of 1890. A scheme for the erection of 11 houses in this area is at present awaiting the approval of the Ministry of Health.

(V). BYE-LAWS RELATING TO HOUSES, ETC.

There is an urgent need for bye-laws to prevent insanitary conditions arising from the conversion of existing houses into flats.

(VI). GENERAL AND MISCELLANEOUS.

Nil.

(VII.) APPENDICES. Statistics for the twelve months ended 31st December, 1919.

(1) Number of dwelling houses in respect of which complaints were made by householders that they were unfit for human habitation... .. 0

(2). ACTION UNDER SECTION 17 OF THE HOUSING ACT OF 1919 :

(a) Number of dwelling houses inspected under and for the purpose of the Section 42

(b) Number of dwelling houses which were considered to be unfit for human habitation 37

(c) Number of dwelling houses the defects of which were remedied without the making of Closing Orders 0

(3). ACTION UNDER SECTION 28 OF THE HOUSING ACT, 1919.

(a) Number of Orders for repair issued	0
(b) Number of cases in which repairs were carried out by the local authority	0
(c) Number of dwelling houses voluntarily closed on notice by owner that they could not be made fit without recon- struction	0

(4). CLOSING ORDERS.

(a) Number of representations made to the local authority with a view to the making of Closing Orders ...	30
(b) Number of Closing Orders made	30
(c) Number of dwelling houses in regard to which Closing Orders were determined on the houses being made fit for human habitation	1

(5). DEMOLITION ORDERS.

(a) Number of Demolition Orders made	22
(b) Number of houses demolished in pursuance of Demolition Orders	0

(6). NUMBER OF DWELLING HOUSES DEMOLISHED

VOLUNTARILY	0
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(7). OBSTRUCTIVE BUILDINGS.

(a) Number of representations made (Section 38 of the Housing Act of 1890)	0
(b) Number of buildings demolished	0
(c) Number of representations still under consideration	0

(8). STAFF ENGAGED IN HOUSING WORK.

Medical Officer of Health.

Inspector of Nuisances.

One clerk (for part of his time).

Also Borough Surveyor's Staff.

HOUSING, TOWN PLANNING, ETC., ACT, 1919.

SURVEY OF HOUSING NEEDS.

A summary may here be given of the information and estimates given by the Medical Officer of Health in making the above survey, together with his observations on those figures.

SECTION I.—Prevailing Conditions affecting Shortage of Houses.

POPULATION.

4.	Pre-war population (1914)	...	...	...	...	38,392
5.	Average annual increase of population for the five years before the War	...	...	...	...	205
6.	Estimated present population	...	...	...	...	38,350

EXISTING HOUSING ACCOMMODATION.

8.	Number of dwelling houses in the town	...	...	...	9,571
9.	Number of working class houses	...	...	...	6,558
10.	Average number of working class houses built annually during the five years before the War...	...	...	...	14
11.	Number of working class houses built between January 1st, 1915 and December 31st, 1918	...	...	...	3

OVERCROWDING.

13. Tenements with more than two occupants per room :—

Number of tenements	...	...	...	...	11
Total number of occupiers	...	...	...	...	75

14.	Number of houses intended for one family only which are now occupied (without having been specially adapted) by two or more families	30
-----	--	-----	-----	-----	----

SECTION II.—Estimate of Housing Needs.

1. Working class houses required during the next three years to

(a) Meet the unsatisfied demand for houses, taking account of growth of population, overcrowding, etc.	50
(b) Re-house persons to be displaced by the clearance of unhealthy areas	632
(c) Replace other dwellings which are unfit for human habitation and cannot be made fit ...	100
(d) Replace obstructive or other buildings, now inhabited and not included under heading (c), which should be demolished	50
(e) Replace other houses which, although they cannot at present be regarded as unfit for human habitation, fall definitely below a reasonable standard	50
(f) Meet anticipated deficiencies <i>e.g.</i> arising from new industrial development	100
Total	— 982

2. DEDUCT—

(a) Working class houses to be set free during next three years by decrease in population	0
(b) Working class houses likely to be built during the next three years by persons other than the Local Authority	0
Total	— 0
Nett Estimate of number of Houses required ...	982

SECTION III.—Areas which are being or may have to be dealt with as unhealthy under Part I or Part II of the Act of 1890.

Specify Area.	Ref. No. on Map.	Acreage. (approximate).	Whether already Officially represented as Unhealthy.	Number of Houses.	Population. (approximate).
Area of Reconstruction Scheme No. 1. East Ward. Cross Street & Dumble Street Area	1	1·1	yes.	25	80
Ebenezer Place Area ...	2	7·85	no.	277	850
Longwestgate, East Mount Area	3	0·93	no.	54	150
Longwestgate — Castlegate Area	4	1·65	no.	50	170
Sandside Area	5	0·55	no.	31	110
Longwestgate—Church Stair Street Area	6	6·62	no.	305	900
East Ward Centre Area ...	7	0·96	no.	54	180
Foreshore Road Area ...	8	7·21	no.	248	880
	9	3·19	no.	101	180
Totals		30·06		1,145	3,500

SECTION IV.—Insanitary Houses (other than houses in unhealthy areas of which particulars are given in Section III).

PREVAILING CONDITIONS—

1. How many inhabited houses are there in the town which are not and cannot be made fit for human habitation? 150
2. Number of persons inhabiting these houses 380
3. How many houses are already subject to

(a) Closing Orders? 21

(b) Demolition Orders? 2
4. How many houses are seriously defective but can be made habitable? 250

SECTION V.—Map.

A map of the Borough was coloured in the following way :—

1. PINK denoted areas which can only be satisfactorily dealt with as unhealthy under Part I and Part II of the Act of 1890.
2. BURNT SIENNA denoted areas which MAY have to be similarly dealt with.
3. YELLOW denoted any considerable areas which contain a large proportion of seriously defective houses but can be dealt with by renovation and removal of individual houses.

The areas named in section III were coloured as follows :—

PINK.—Areas 1, 2, 3, 4, 5 and 6.

BURNT SIENNA.—Areas 7, 8 and 9.

An Area containing William Street and its surroundings was coloured YELLOW.

OBSERVATIONS BY THE MEDICAL OFFICER OF HEALTH ON THE FIGURES GIVEN BY HIM.

SECTION I.

4.—This is the estimated population at the middle of the year for the purpose of calculating the vital statistics of the Borough. It takes no account of the very large increase of the population during six months of the year caused by the influx of visitors to the town, an increase amounting probably to over 100 % at the height of the season.

5.—Up to 1912 there was a small annual decrease in the population which was more than counterbalanced by a comparatively sharp rise, amounting to about 1,300, in the following two years.

6.—The same remarks apply here as under 4.

8.—This figure was calculated up to July 31st, 1919, and is believed to be very accurate.

13.—The total number of tenements housing more than 2 persons per room discovered up to the present date is 29, containing 74 rooms and 206 occupants. Of these, 18 containing 46 rooms and 131 occupants have been dealt with, leaving 11 tenements containing 28 rooms and 75 occupants undealt with. As, in the majority of these cases, there are attics, often good ones, which have not been included in the number of rooms, the amount of overcrowding revealed is not very serious.

14.—Seventeen cases are known, and there are probably less than thirty in the town.

There are a certain number of instances where married daughters live with their parents because they cannot get a house. These have not been included.

SECTION II.

1 (a). Such overcrowding as has come to light is almost entirely in the unhealthy areas, and has been allowed for in the figure given under the next heading. The figure here given is to cover any overcrowding outside the unhealthy areas, and any increase of population additional to that indicated under (f).

(b). Of the 632 houses required it is estimated that 244 can be put on to the cleared areas leaving 388 to be built on other sites. These figures are approximate and require more detailed consideration.

(c). There are 200 back-to-back houses which come under this heading. These can be converted into 100 through houses. Only 164 of these 200 are occupied so that the conversion will displace 64 families for whom 64 houses will be required. In addition there are other unfit houses outside unhealthy areas which bring the number of houses to be provided under this heading up to approximately 100.

(d). This figure is uncertain and may need revision when there has been time for further investigation.

(e). The same remark applies here as under (d).

(f). One hundred houses will be required to accommodate the increase in working-class population anticipated in Section I. 7.

SECTION III.

The areas numbered 1 to 6 and coloured pink on the accompanying map are undoubtedly very unhealthy areas. Vital statistics are available with respect to one of them, the largest, namely:— Area No. 2 which I have specified as the “Cross Street and Dumble Street Area.” In my Annual Report for 1913 I gave comparative average annual death-rates, tuberculosis death-rates, and infantile mortality rates over a period of five years for the area surrounding and including Cross Street and Dumble Street, for the East and other Wards, and for the Borough as a whole. The area now specified is rather larger than the one then investigated, but the statistics are of none the less value on that account.

With regard to Areas Nos. 7, 8, and 9, coloured burnt sienna on the map, Area No. 7 will need reconstruction at a later date after worse areas have been dealt with. Portions of the large Area No. 8 will also need reconstruction and it may be found desirable to include other portions of it in neighbouring unhealthy areas. Area No. 9 does not at present need anything more than demolition of unfit and obstructive buildings, but it may become advisable to deal more radically with it later.

SECTION IV.

1.—The figure 150 is arrived at by taking half the number of back-to-back houses mentioned under Section II. 1 (c) and adding to the 100 thus obtained, the 23 houses already subject to Closing or Demolition Orders and an approximate number of 27 other unfit houses not yet inspected.

4.—This figure is only an estimate and may need revision. It includes half the 200 back-to-back houses to be converted into through houses referred to under Section II. 1 (c).

October 28th, 1919.

METEOROLOGICAL REPORT.

Scarborough—Latitude, $54^{\circ} 17'$; Longitude, $0^{\circ} 24'$ west. The Scarborough Observatory is a Station of the Meteorological Office. The observations are taken daily at 9 a.m. and 9 p.m., with instruments which have been verified at Kew Observatory, and at each observation corrections are made for instrumental errors.

The height of the Barometer Cistern above Mean Sea Level is 96 feet.

Barometric readings are reduced to 32° Fahrenheit and Mean Sea Level.

The Rain Guage is five inches in diameter and one foot above the ground. Its rim is 118 feet above Mean Sea Level. The rainfall is carefully measured to $\frac{1}{100}$ inch.

The sunshine is estimated by a Campbell-Stokes recorder, the type of instrument recognised by the Meteorological Office. To be recorded, the sunshine must be sufficiently intense to burn the card of the recorder. The recorder is 60 feet above the surface of the ground.

The force of the wind is estimated in accordance with Beaufort's Scale—from 0 (calm) to 12 (hurricane).

The Earth Thermometer, which is three feet below the surface of the ground, is read daily at 9 a.m.

The December figures are missing through the death of Mr. W. W. Larkin, late Borough Meteorologist.

The figures given for the mean maximum and minimum temperatures, and the total sunshine and rainfall for December, have been calculated by making them bear the same ratio to the normal Scarborough figures for the month of December over a period of 35 years, as the actual observations at a neighbouring station during December, 1919, bore to the December normals for that station during the same 35 years.

The station used for the purpose was Whitby.

Month. (1919).	Barometer (inches).	Temperature of Air.	Temperature of Wet Bulb.	Dew Point.	Humidity.	Elasticity of Air (Inches).	Maximum Temperature.	Minimum Temperature.	Earth Temperature (3 feet).	Black Bulb in Vacuo (Maximum in Sun).	Force of Wind.	Amount of Cloud.	Bright Sunshine. (Per Day).	Total Rainfall. (In Inches).	No. of Rainy Days.
January	29·690	39·6	37·9	36·3	89	·215	42	34	39·5	56	3·9	8·5	1·7	3·96	20
February	29·799	39·9	38·4	36·4	86	·219	43	31	39·5	65	3·4	7·9	2·1	2·26	15
March	29·788	40·4	39·1	37·4	88	·223	45	35	39·3	73	4·4	7·9	3·0	3·51	21
April	29·912	46·8	44·9	42·7	85	·283	54	40	39·8	96	3·4	7·8	4·9	1·68	18
May	30·092	52·9	50·5	48·0	83	·337	58	46	44·2	108	3·4	6·2	7·9	0·75	5
June	30·015	58·3	55·6	53·5	83	·408	65	53	47·0	116	3·7	7·1	6·7	0·93	11
July	30·003	57·1	54·9	52·9	86	·409	62	51	51·3	103	3·6	7·7	4·2	1·24	10
August	29·934	61·7	58·9	56·6	83	·469	66	52	55·4	115	3·7	7·0	5·9	2·55	12
September	29·934	54·0	54·2	51·7	83	·392	64	50	57·4	101	3·7	5·8	5·2	1·09	11
October	30·172	51·9	49·0	46·1	81	·314	58	45	55·8	90	3·5	6·7	4·1	2·66	19
November	30·220	47·5	45·1	42·6	83	·277	51	43	46·0	73	3·5	7·6	1·6	2·10	21
December	—	—	—	—	—	—	46	34	—	—	—	—	1·0	2·90	18
Mean for the Year							54·6	43·2					4·0	25·63	181
Mean for 35 years							53·6	42·5					3·8	25·77	190